

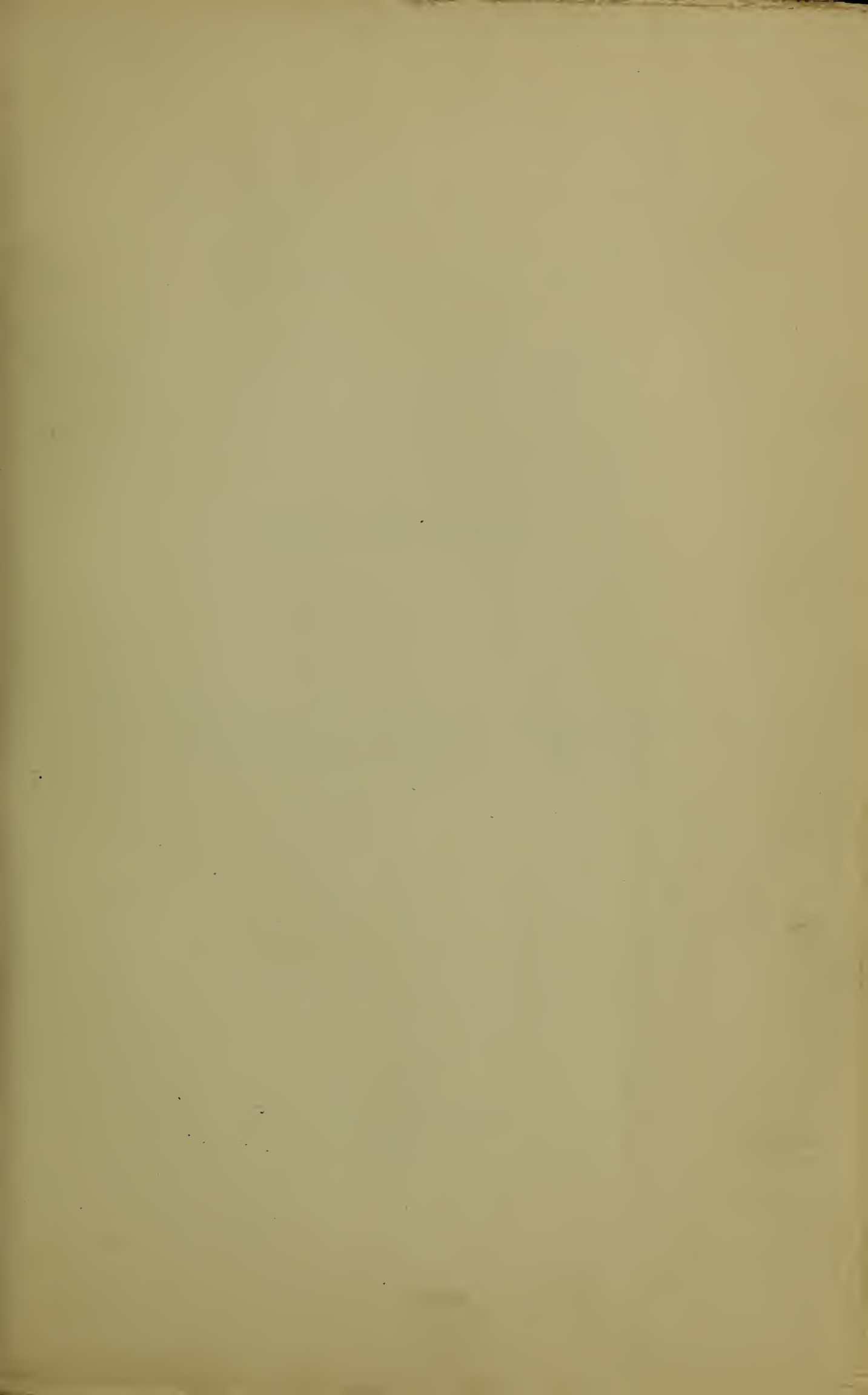
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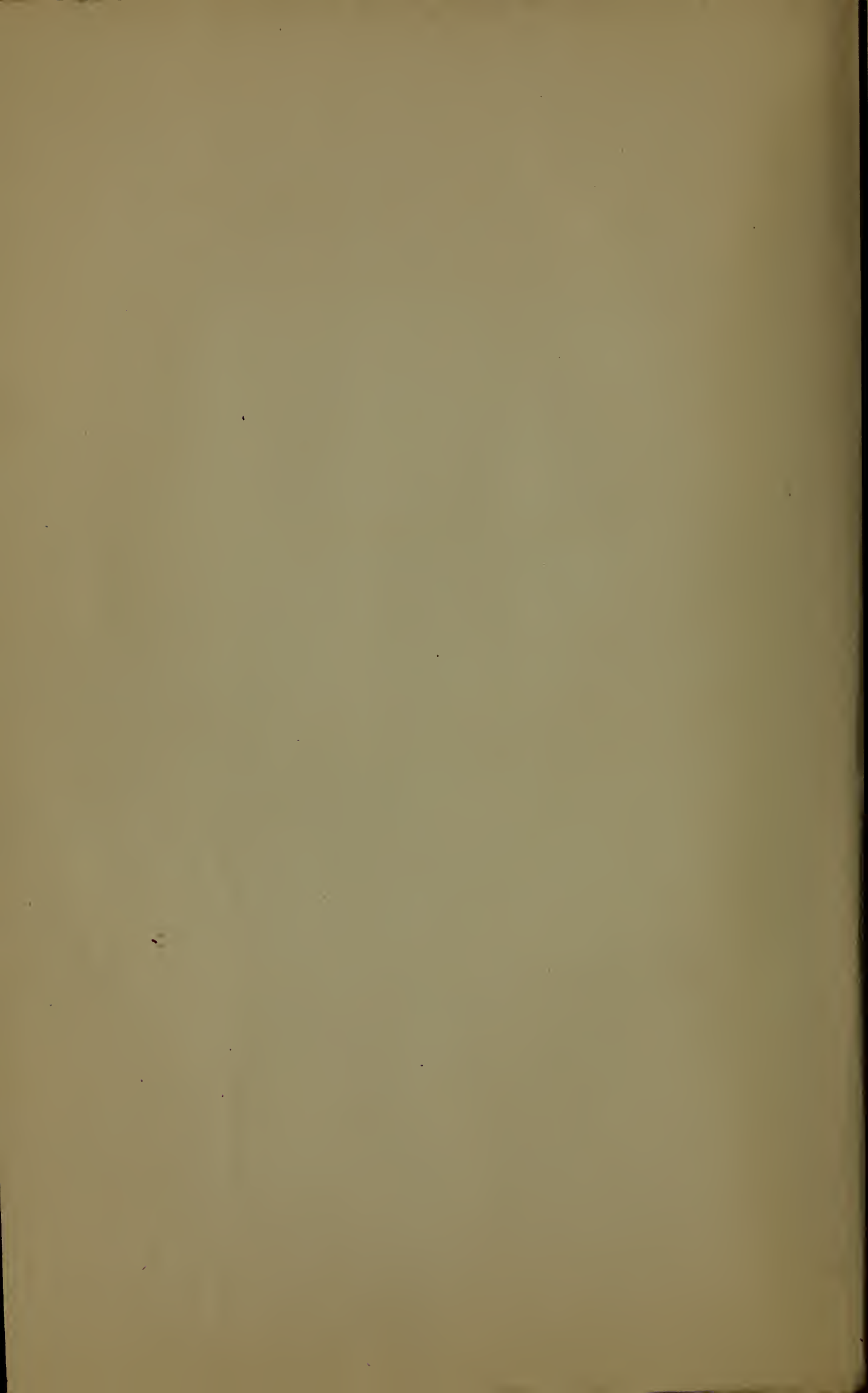
HISTORICAL INFORMATION AND
JUDGMENT IN PUPILS OF
ELEMENTARY SCHOOLS

BY
MARVIN J. VAN WAGENEN

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN THE
FACULTY OF PHILOSOPHY, COLUMBIA UNIVERSITY

PUBLISHED BY
Teachers College, Columbia University
NEW YORK CITY
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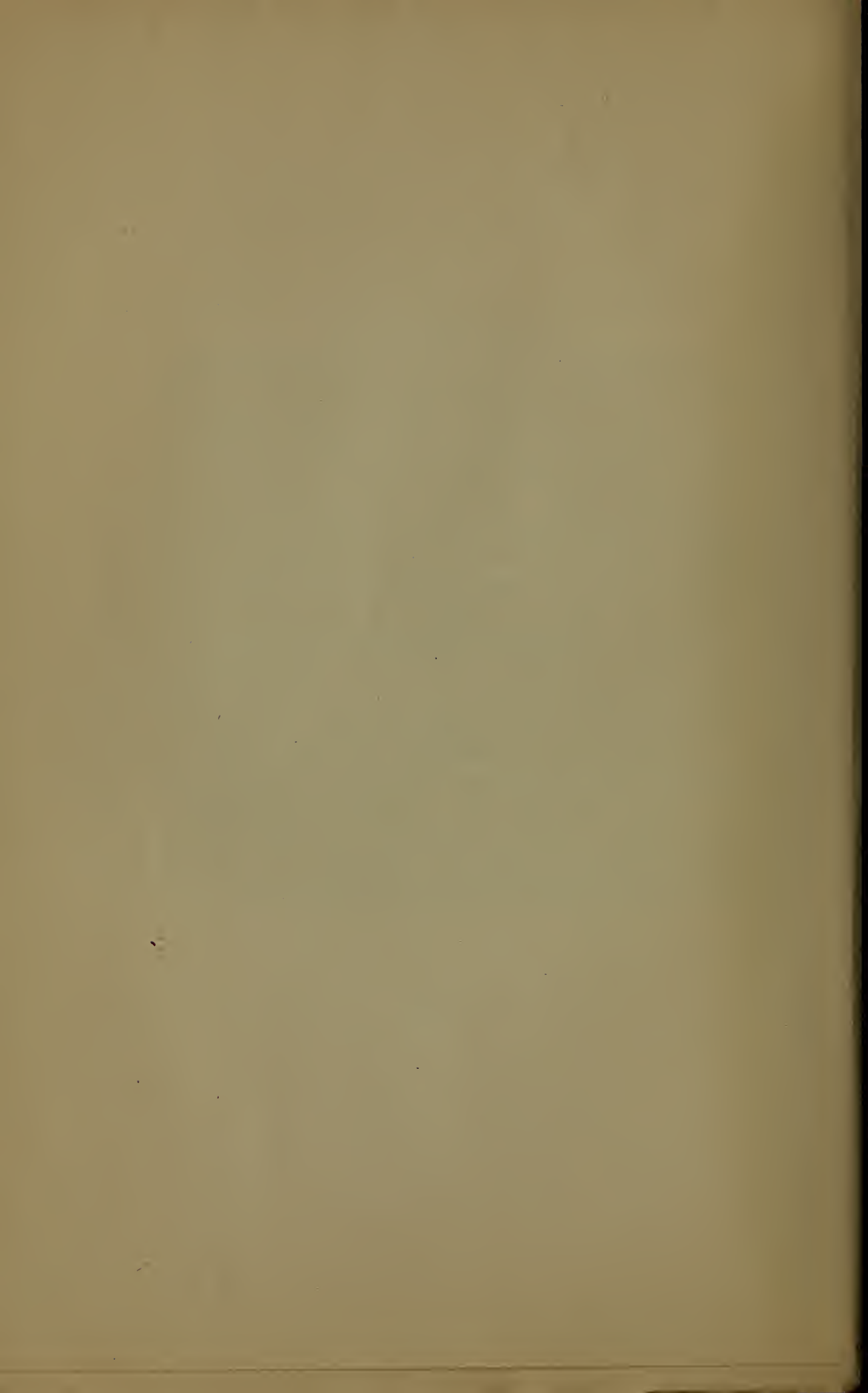
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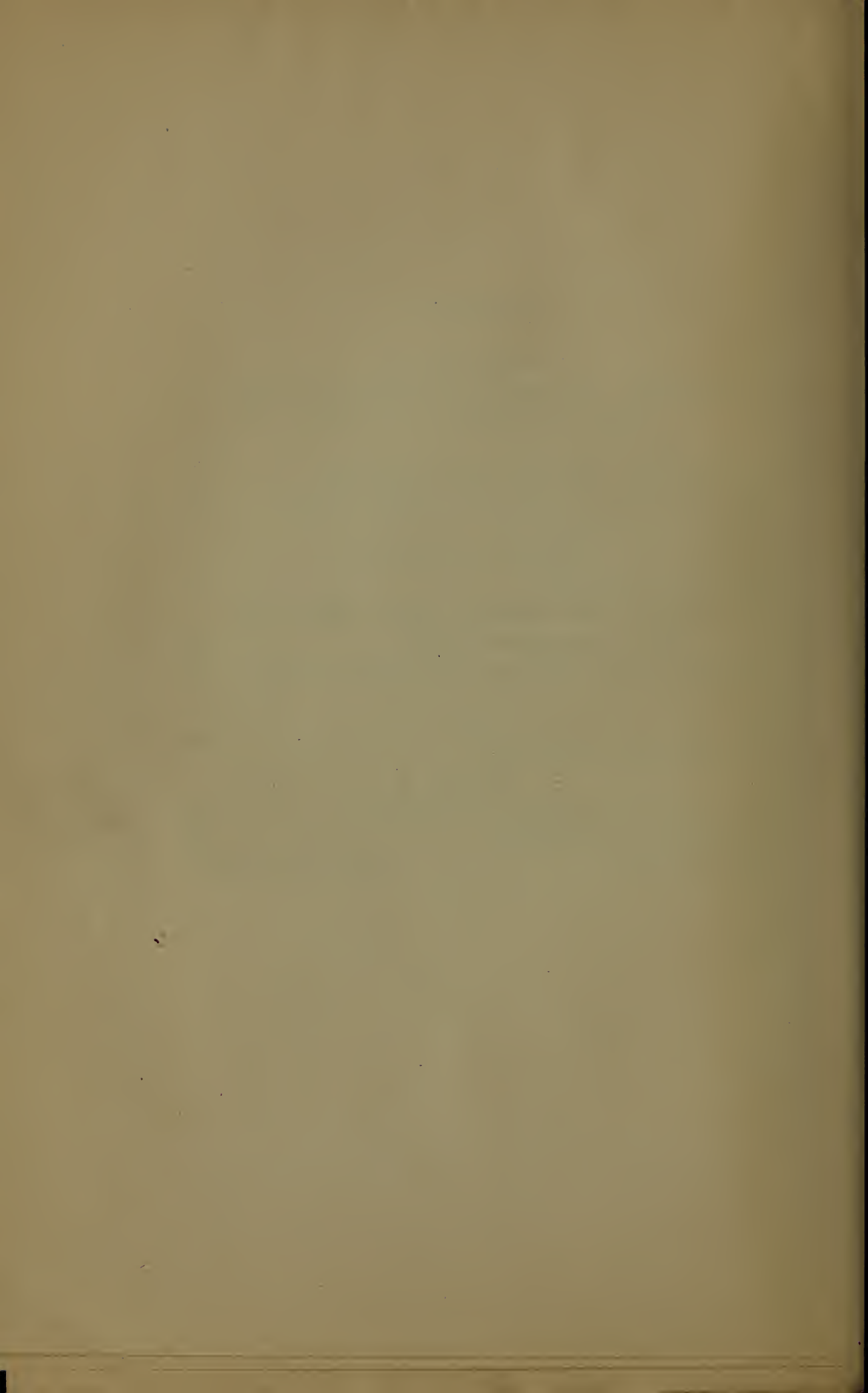
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INTRODUCTION

This monograph presents the results of a study of means or instruments for measuring historical knowledge and judgment, and of the application of these instruments to measure differences between grades, differences between ages, differences between the sexes; the interrelations between (a) amount of knowledge, (b) ability to draw inferences from historical data, and (c) ability to judge character and motives from facts about persons, especially about their public life.

SECTION I

THE SCALES

INFORMATION A, INFORMATION B, THOUGHT A, THOUGHT B,
CHARACTER A, CHARACTER B, AND CHARACTER L

The final result of the first division of the inquiry consists of seven series of questions or tasks graded in difficulty, and keys whereby the achievement of a pupil in respect to any of the tasks may be evaluated. These graded series are educational scales of the type of the Binet-Simon Tests, the Thorndike Reading Scales, the Trabue Language Scales, the Woody Arithmetic Scales and the Hahn Geography Scale. With these scales a group is measured by the degree of difficulty to which it can respond with an assigned per cent of correct results (say 80 per cent). When the history scales have been increased by the addition of a sufficient number of alternative questions and tasks an individual may be measured accurately in this same manner. For the present an individual is more accurately measured by using the number of correct responses which he makes to the series. This number can, by proper treatment, be transmuted into a statement of the degree of difficulty to which the individual would probably respond with an assigned per cent of correctness.

The achievements selected for measurement are (1) those relating to the ability to grasp and retain facts of American

history, (2) those relating to the ability to draw inferences from historical facts, and (3) those relating to the ability to recognize different traits of character revealed in historical situations. In each of these achievements there have been worked out two similar series of questions or problems, each of the two series containing problems of increasing difficulty for any one grade, and being at the same time of an approximately equal difficulty as a whole. These scales are shown in the Appendix. The number in italics before each task gives its position in the order of difficulty. The second number is its identification number, by which it will be designated throughout this monograph.

The Information Scales A and B are designed to measure the range of information from the standpoint of quantity and difficulty of comprehension. The questions used are such that, in the rating of the pupils, variations due to differences in the judgments of different scorers are reduced to a minimum.

In the Thought Scales A and B, certain facts are given from which the pupil is to draw an inference in answer to the question accompanying them. In the easier problems the difficulty lies mainly in seeing the point to the question, while in the more difficult problems the difficulty lies in the selection of appropriate generalized information. Owing to the great variety of ways in which a correct or partially correct answer may be expressed by the pupil, variations in the ratings of the pupils due to variations in the judgments of the scorers are not readily eliminated. Such variations have been reduced in a large degree, however, by assigning to a number of answers given by pupils to each problem a definite score, based on the judgment of from sixteen to twenty-two advanced students in American history.

In the Character Scales A and B, an attempt is made to measure the ability to perceive traits of character on the basis of the ability to select from a group of ten words the three words which best describe the character or action of the individual or group playing a leading part in each sketch. In these scales, three words which were rated by at least four out of five competent adults as being adequately descriptive and by not more than one out of the five as being not more than partially descriptive, were mixed in with seven other words which were rated by at least four out of five competent adults as being not at all descriptive and by not more than one as being even partially descriptive. In

order to determine whether or not the Character Scales A and B measure the ability to pick out traits of character or are merely word discrimination tests, a supplementary scale, Character L, was worked out. In this scale motives instead of words are used for fourteen of the problems of Character Scale A, the motives being selected on the basis of the median judgment of twenty-eight advanced students of American history.

The chief desiderata in instruments for measuring achievement in American history are (1) that the tasks be symptoms of important abilities really desired by the school, (2) that the tasks be not too much disturbed by linguistic difficulties so that ability in history, not in reading or composition, may be chiefly measured, (3) that the measurement of a small group, such as a class of twenty-five or more, be made with sufficient precision, (4) that the tests be capable of extension to alternative forms so as to reduce the harm done by special preparation or coaching for the tests, and (5) that the administration and scoring of the tests be convenient.

The reader may judge for himself concerning the first and second of these points. Concerning the third the essential facts are as follows: The tests being given to groups under ordinary class-room conditions: Information Scale A correlates with Information Scale B (using pupils of the same sex and grade) to an extent of $.71 \pm .01$. Thought Scale A correlates with Thought Scale B (using pupils of the same sex and grade) to an extent of $.74 \pm .01$. Character Scale A correlates with Character Scale B (using pupils of the same sex and grade) to an extent of $.83 \pm .01$. Character Scale L correlates with either Character Scale A or Character Scale B to an extent of $.70 \pm .02$.

The mean square error of placing an individual by one test is then (by the formula $S = \sigma\sqrt{1-r^2}$) about .7 of the standard deviation of the children of his sex and grade in the case of the Information and Thought tests and about .6 of it in the case of the Character tests. For a group of twenty-five the mean square error would be $\frac{.7}{\sqrt{25}}$ S.D. and $\frac{.6}{\sqrt{25}}$ S.D. or .14 S.D. and .12 S.D. respectively.

The detailed data on which these estimates are based will be found in Appendix I.

A composite score formed from the three A tests correlates with a similar composite formed from the three B tests (using pupils of the same sex and grade) to an extent of .876 with a probable error well under .01. The three A or B scales when combined and used to measure a class of twenty-five thus give a mean square error of less than .1 the S.D. of a grade. For a group of 100 the mean square error will be under .05 S.D. or about 1/120th of the range for a grade.

As to extensibility,—the Information Scales may be increased by alternates until the whole content of American history is included, so that coaching would mean a good general course in history! The Thought and Character Scales may be extended indefinitely, under the limitations of industry and ingenuity in finding and framing tasks.

As to convenience of administration and scoring, these tests are at least notable improvements upon the ordinary form of examination. They may be given to groups of any size; 50 minutes is adequate to exhaust the abilities of all save a very, very few; most of the scoring can be done by the use of the keys printed in Section VII without the use of expert judgment and without any special preparation. With some special tuition and practice a person of very mediocre attainments in history and general wisdom can score all the questions with sufficient precision for such practical purposes as measuring the progress of a class, comparing two schools, or reporting the results of tests under different conditions.

In putting forth this series of tests the attempt to cover the whole field of mental activity involved in the study of American history has not been made. No scales, for instance, are included which are designed to measure the capacity of the student to grasp and comprehend the meaning and significance of historical situations or of the changing standards of judgment, to measure the ability of the pupil to judge of the degree of reliability or validity of historical material or historical evidence, or to measure his ability to distinguish between statements of fact and statements of opinion. The attempt is here made to measure only those phases of the work in American history which are at present emphasized in the public elementary schools.

The difficulty of each question, defined and measured in a way to be fully described later, is as shown in the following table. In

this table, I is the difference in difficulty between an information task which 50 per cent of the 4th grade children do correctly and a task which possesses zero or just not any difficulty. T is the difference in difficulty between a task for historical thought or judgment which 50 per cent of the 4th grade children do correctly and a task of zero difficulty. C is the corresponding difference in the case of judgments of character, motive and the like. The amounts of I, T and C are, at present, unknown. The somewhat elaborate course of experimentation and statistical treatment which results in these measures is given in Section IV.

TABLE 1
DIFFICULTY OF EACH TASK

Information A	Information B	Thought A	Thought B
1. I* -0.4	1. I -1.0	1. T† +2.0	1. T +0.4
2. I +0.1	2. I -0.3	2. T +1.4	2a. T +1.5
3. I +1.4	3. I +2.1	3. T +2.6	2b. T +2.3
4. I +1.6	4. I +1.5	4. T +3.1	3a. T +4.6
5. I +2.1	5. I +2.0	5a. T +4.2	3b. T +4.0
6. I +2.8	6. I +2.6	5b. T +3.5	3c. T +4.1
7. I +1.8	7. I +2.8	5c. T +3.0	4. T +3.4
8. I +3.3	8. I +2.8	6. T +4.3	5. T +3.8
9. I +3.1	10. I +2.8	7. T +3.9	6. T +3.7
10. I +3.7	11. I +2.8	8. T +4.5	7a. T +4.3
11. I +4.1	12. I +4.3	10a. T +6.7	7b. T +3.3
12. I +3.6	13. I +4.2	10b. T +3.9	8. T +4.3
13. I +4.1	14. I +4.5	10c. T +4.7	9. T +4.0
14. I +4.2	15. I +3.0	11a. T +4.0	10. T +4.6
15. I +4.8	16. I +4.2	11b. T +5.0	11. T +5.3
16. I +3.4	17. I +5.0	12. T +3.5	12a. T +4.6
17. I +4.1	18. I +4.7	13. T +4.3	12b. T +5.1
18. I +5.6	19. I +4.9	14. T +4.4	13a. T +3.7
19. I +4.8	20. I +5.5	15a. T +5.3	13b. T +4.9
20. I +6.6	21. I +5.7	15b. T +6.2	14a. T +7.1
21. I +5.8	22. I +4.8	16a. T +4.1	14b. T +4.6
22. I +5.7	23. I +7.2	16b. T +5.2	15. T +4.3
23. I +6.3	24. I +6.0	17. T +5.9	16. T +6.0
24. I +7.8	25. I +4.7	18. T +5.3	17. T +5.3
25. I +5.9	26. I +5.8	19. T +4.8	18. T +6.1
26. I +6.2	27. I +5.8	20a. T +5.7	19. T +6.2
27. I +7.6	28. I +5.5	20b. T +6.0	20a. T +4.6
28. I +5.4	29. I +5.9	21. T +5.0	20b. T +7.0
29. I +6.8	30. I +7.0	22. T +6.1	21. T +6.7
30. I +6.5	33. I +8.6		22. T +7.7
33. I +8.1	34. I +6.9		
34. I +9.9			

* I is the difference in difficulty between an information task which 50 per cent of the 4th grade children do correctly and a task which possesses zero or just not any difficulty.

† T is the difference in difficulty between a task for historical thought or judgment which 50 per cent of the 4th grade children do correctly and a task of zero difficulty.

TABLE 1—*Continued*
 DIFFICULTY OF EACH TASK

Character A	Character B	Character L
1. C* +1.8	1. C +1.3	1. C +1.7
2. C +1.8	2a. C +3.1	2. C +1.6
3. C +2.4	2b. C +2.4	3a. C +2.9
4. C +3.2	3. C +2.6	3b. C +2.8
5. C +2.1	4. C +3.2	4. C +3.0
6a. C +2.9	5a. C +2.9	5. C +2.9
6b. C +2.8	5b. C +2.4	6. C +2.7
7a. C +3.0	6. C +1.5	7a. C +2.8
7b. C +3.3	7. C +3.8	7b. C +4.0
8. C +3.0	8a. C +3.3	8a. C +3.2
9. C +2.8	8b. C +4.1	8b. C +4.0
10. C +3.2	8c. C +3.7	9a. C +3.7
11. C +4.0	9. C +3.2	9b. C +3.8
12. C +4.2	10. C +3.5	10. C +3.6
13a. C +3.8	11. C +5.0	
13b. C +4.5	12. C +4.1	
14. C +4.5	13a. C +4.5	
15a. C +4.5	13b. C +5.0	
15b. C +4.6	14. C +5.7	

* C is the corresponding difference in the case of judgments of character, motive and the like.

SECTION II

INDIVIDUAL, GRADE, AGE, AND SEX DIFFERENCES

As in the other studies of school achievements, so in history wide differences in ability are found among pupils of the same grade. The facts for the two tests of information combined are given below. The maximum possible score was 63. The range was from 0 to 25 in Grade 4; from 4 to 35 in Grade 5; from 5 to 46 in Grade 6; from 6 to 48 in Grade 7; and from 10 to 51 in Grade 8.

TABLE 2
INFORMATION SCALES A AND B COMBINED

	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
Range.....	0-25	4-35	5-46	6-48	10-51
Medians.....	9.0	16.6	23.6	26.3	32.2
25%.....	6.8	12.9	18.0	19.5	27.3
75%.....	11.7	20.9	28.5	32.6	37.8

The facts for the two tests of inference and judgment, Thought A and Thought B, are as follows, the possible maximum being 59:

TABLE 3
THOUGHT SCALES A AND B COMBINED

	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
Range.....	0-24	0-35	2-45	3-49	3-56
Medians.....	4.2	9.9	20.7	28.0	36.2
25%.....	2.5	6.5	14.6	20.5	28.7
75%.....	6.2	15.3	28.9	35.0	42.0

The facts for the tests of judgment of character, Character A and Character B combined, are as follows, the possible maximum being 38:

TABLE 4
CHARACTER SCALES A AND B COMBINED

	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
Range.....	0-23	0-30	0-36	4-36	4-36
Medians.....	3.6	8.1	13.1	18.7	22.1
25%.....	2.1	4.9	8.7	12.7	17.2
75%.....	5.9	12.3	18.9	24.4	28.1

The facts for the test Character L are as follows, the possible maximum being 14:

TABLE 5
CHARACTER SCALE L

	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
Range.....	0-7	0-12	0-14	0-12	0-13
Medians.....	1.2	2.4	4.4	5.7	7.7
25%.....	0.6	1.3	2.5	3.3	4.9
75%.....	2.1	4.2	6.6	8.4	9.9

The differences between successive grades appear in the medians given above. They are:

Grades.....	5-4	6-5	7-6	8-7
Information.....	7.6	7.0	2.7	5.9
Thought.....	5.7	10.8	7.3	8.2
Character A+B.....	4.5	5.0	5.6	3.4
Character L.....	1.2	2.0	1.3	2.0

The differences between the grade medians being small in comparison with the range within a grade, there must obviously be much "overlapping." There is an amount that will be astonishing to anyone who has thought of historical information and power as chiefly produced by school study. There are many children in Grade 4, who have hardly studied history in school at all, who do better even in the information tests than some children in Grade 8. The facts are given fully in Section IV. As samples we may take the percentage of each grade who reach the median of the grade above:

Per cent for Grade 4	{	5.8 in Information A and B
	{	7.0 in Thought A and B
	{	14.7 in Character A and B
Per cent for Grade 5	{	14.4 in Information A and B
	{	10.6 in Thought A and B
	{	20.9 in Character A and B
Per cent for Grade 6	{	36.0 in Information A and B
	{	29.2 in Thought A and B
	{	25.8 in Character A and B
Per cent for Grade 7	{	26.8 in Information A and B
	{	22.5 in Thought A and B
	{	34.9 in Character A and B

These per cents would be somewhat lower for a combination of the three historical abilities, but it is safe to say that a regrading of history classes on the basis of the absolute ability of pupils to do the class work would, in Grades 6, 7, and 8, put nearly or

quite half of the pupils in a different grade from that in which they were found. Much the same has been found true in the case of language, reading, spelling, and arithmetic.

TABLE 6
MEDIAN FOR EACH AGE IN EACH GRADE
INFORMATION A

	8½	9½	10½	11½	12½	13½	14½	15½
Grade 4.....	5.5 (83)	5.0 (193)	4.7 (126)	4.2 (62)	3.3 (21)	2.8 (9)	2 (1)	..
Grade 5.....	12 (2)	10.3 (46)	8.9 (166)	9.1 (106)	8.6 (49)	9.0 (36)	6.5 (13)	7.6 (7)
Grade 6.....	19 (1)	13 (8)	12.3 (91)	12.6 (181)	11.5 (115)	11.6 (74)	10.4 (44)	10.5 (10)
Grade 7.....	..	..	17 (10)	14.4 (69)	13.3 (146)	11.9 (104)	10.7 (63)	9.8 (27)
Grade 8.....	..	..	17 (2)	19 (12)	16.8 (71)	15.6 (165)	15.9 (130)	13.9 (61)

TABLE 7
MEDIAN FOR EACH AGE IN EACH GRADE
INFORMATION B

	8½	9½	10½	11½	12½	13½	14½	15½
Grade 4.....	5.8 (83)	4.8 (197)	4.6 (127)	3.9 (60)	3.4 (17)	4.5 (9)	3 (2)	..
Grade 5.....	12 (2)	10.0 (46)	8.3 (169)	8.2 (104)	8.6 (49)	7.3 (36)	7 (14)	4.5 (7)
Grade 6.....	21 (1)	12.5 (7)	12.3 (89)	12.5 (184)	11.6 (114)	11.4 (74)	8.2 (40)	7 (10)
Grade 7.....	..	..	19.3 (10)	15.7 (69)	14.0 (144)	13.3 (100)	12.3 (57)	10 (26)
Grade 8.....	..	..	18 (2)	21 (12)	18.7 (69)	16.6 (164)	16.8 (130)	14.9 (61)

TABLE 8
MEDIAN FOR EACH AGE IN EACH GRADE
THOUGHT A

	8½	9½	10½	11½	12½	13½	14½	15½
Grade 4.....	3.2 (52)	2.5 (197)	2.2 (113)	2.5 (52)	1.8 (25)	2.2 (11)	0 (1)	1 (1)
Grade 5.....	12.5 (2)	6.5 (34)	5.8 (134)	5.5 (98)	5.5 (58)	3.0 (44)	3.3 (15)	3.5 (8)
Grade 6.....	..	..	13.0 (59)	11.4 (139)	9.9 (99)	9.2 (64)	9.4 (40)	6.5 (13)
Grade 7.....	..	..	18.7 (8)	17.3 (44)	14.8 (108)	12.3 (102)	11.9 (65)	11.3 (27)
Grade 8.....	..	..	20 (1)	20.5 (5)	19.5 (48)	18.0 (150)	18.3 (122)	15.4 (55)

TABLE 9
 MEDIAN FOR EACH AGE IN EACH GRADE

	THOUGHT B							
	8½	9½	10½	11½	12½	13½	14½	15½
Grade 4.....	2.0 (52)	2.0 (196)	1.8 (111)	2.1 (59)	1.7 (24)	2.3 (11)	3.5 (3)	4 (1)
Grade 5.....	12.5 (2)	6.0 (34)	5.7 (133)	6.0 (97)	6.4 (58)	4.0 (43)	3 (14)	3.3 (8)
Grade 6.....	..	..	13.5 (60)	11.4 (139)	10.3 (98)	8.6 (60)	9.5 (37)	9 (12)
Grade 7.....	..	..	17 (8)	16.0 (44)	15.5 (109)	13.9 (100)	10.9 (63)	10.2 (27)
Grade 8.....	..	..	..	20.5 (5)	20.4 (49)	19.3 (147)	18.4 (122)	16.0 (54)

TABLE 10
 MEDIAN FOR EACH AGE IN EACH GRADE

	CHARACTER A							
	8½	9½	10½	11½	12½	13½	14½	15½
Grade 4.....	2.4 (29)	2.5 (171)	1.9 (117)	1.3 (44)	1.6 (24)	1.3 (7)	1.3 (3)	.. ..
Grade 5.....	9.5 (2)	6.5 (25)	4.6 (102)	4.0 (96)	3.6 (43)	3.8 (35)	3.1 (13)	3.0 (8)
Grade 6.....	..	15.5 (4)	8.2 (55)	8.0 (155)	6.5 (119)	6.2 (73)	5.9 (49)	6.8 (13)
Grade 7.....	..	..	10.5 (3)	11.5 (41)	10.1 (115)	9.9 (97)	8.8 (75)	6.5 (17)
Grade 8.....	..	..	19 (1)	13.6 (9)	13.6 (54)	12.3 (146)	11.6 (135)	11.0 (58)

TABLE 11
 MEDIAN FOR EACH AGE IN EACH GRADE

	CHARACTER B							
	8½	9½	10½	11½	12½	13½	14½	15½
Grade 4.....	1.9 (29)	2.2 (173)	1.8 (119)	1.3 (42)	1.3 (23)	1.1 (7)	1.2 (3)	.. ..
Grade 5.....	8.5 (2)	5.9 (23)	4.5 (102)	3.9 (95)	3.3 (44)	3.3 (35)	4.5 (13)	3.3 (9)
Grade 6.....	..	12.5 (2)	8.4 (55)	7.1 (157)	5.8 (116)	5.8 (73)	5.2 (49)	6.3 (13)
Grade 7.....	..	..	9.5 (4)	9.8 (41)	9.5 (115)	9.6 (98)	7.9 (75)	3.9 (17)
Grade 8.....	..	..	10 (1)	14.5 (9)	12.1 (51)	11.3 (146)	10.2 (135)	9.5 (57)

It will be noted that there is a general tendency in all the scales for the younger pupils in any grade to achieve a higher median score than the older pupils of that grade. In the upper grades the younger pupils of one grade tend to achieve as high or even a higher median score than the older pupils of the next higher grade.

It will be noted, too, that in all the scales, despite the fact that the younger pupils in the grade are likely to be promoted more rapidly while the older pupils are more likely to be retarded, the interval between the median achievement of the younger pupils in the fourth grade and the median achievement of the younger pupils in the eighth grade is greater than the interval between the median achievement of the older pupils in the fourth grade and the median achievement of the older pupils in the eighth grade. The younger pupils in the grade not only tend to start with a higher score in the lower grade and to advance more rapidly from grade to grade but they also tend to accomplish more while passing through the grades in a shorter time than the older pupils tend to accomplish while taking a longer time to complete the work of the same grades.

The boys of the schools tested do notably better than the girls in all three of these abilities, especially in the Information Scales. A summary of the facts is given below. The detailed facts are given in Tables 59 to 65 in Appendix II.

TABLE 12

PER CENT OF BOYS EQUALLING OR EXCEEDING THE MEDIAN ACCOMPLISHMENT OF GIRLS IN THE SAME GRADE

	Informa- tion A	Informa- tion B	Thought A	Thought B	Charac- ter A	Charac- ter B	Charac- ter L
Grade 4.....	74.3	80.6	62.5	67.6	52.9	51.0	45.7
Grade 5.....	81.9	82.6	74.8	67.6	55.3	57.3	52.0
Grade 6.....	82.7	82.6	80.6	77.1	60.2	63.8	63.3
Grade 7.....	89.9	91.0	74.3	79.2	59.1	54.2	64.8
Grade 8.....	88.6	83.3	78.5	72.4	59.9	61.6	65.8
Average.....	83.5	84.0	74.1	72.8	57.5	57.6	58.3

TABLE 13

PER CENT OF GIRLS EQUALLING OR EXCEEDING THE MEDIAN ACCOMPLISHMENT OF BOYS IN THE SAME GRADE

	Informa- tion A	Informa- tion B	Thought A	Thought B	Charac- ter A	Charac- ter B	Charac- ter L
Grade 4.....	24.5	11.9	38.7	25.8	46.9	48.8	55.4
Grade 5.....	20.1	23.6	30.1	31.9	44.1	42.2	46.3
Grade 6.....	16.2	19.4	20.5	22.9	43.9	34.3	33.3
Grade 7.....	8.7	11.6	23.4	25.4	41.7	46.3	33.3
Grade 8.....	15.0	20.4	23.7	27.6	40.0	39.1	36.6
Average.....	21.1	21.7	27.3	26.7	43.3	42.1	41.0

In the Thought Scales the per cent of boys who do more problems correctly than the median girl in each grade is less marked than in the case of the Information Scales. The tendency for

the per cent of boys excelling the median girl to increase from grade to grade is also present at least up to the seventh grade.

In the Character Scales the per cent of boys who do more problems correctly than the median girl in each grade is still less marked. The tendency for the percentage of boys excelling the median girl to increase from grade to grade up to the seventh grade is evident just as it is in the case of the other scales. The facts given in these tables clearly show the increasing superiority of the boys over the girls in doing these tasks from the fourth grade up to the seventh grade at least, and, in the case of the Information Scales, up to the eighth grade, the greatest superiority being shown in the Information Scales and the least in the Character Scales, where the effect of class-room work is probably least apparent.

SECTION III

INTERCORRELATION OF THE THREE ABILITIES

The correlations in the following tables indicate clearly that information ability—ability to answer correctly questions asking for definite facts—is not antagonistic to or divorced from thought ability, as is sometimes thought, but is closely related to it. To learn facts with an understanding of their meanings requires thought in so far as selective thinking is involved in the perception of the definite relations essential in a comprehension of the meanings. The response in correctly answering an information question which has not become a fixed habit of reaction requires thought in order to interpret the question,—to locate clearly what information is called for—and to reject all inappropriate associations, selecting from the several associations that may be recalled by the various words and phrases of the question or the mental set peculiar to it, that one which actually answers the question. Then, too, an inference depends in a large measure upon the possession of information, either specific or generalized, which has been acquired in situations in which similar elements are probably involved.

In Tables 14, 15, and 16 are given the raw coefficients obtained by correlating the scores of the seventh and eighth grade pupils in each scale with those of every other scale, with the exception of Character Scale L. By using the formula

$$r_{pq} = \frac{\sqrt{(r_{p_1q_2})(r_{p_2q_1})}}{\sqrt{(r_{p_1p_2})(r_{q_1q_2})}}$$

to make correction for attenuation, the ability to answer the information questions evidently correlates with the ability to do the thought problems above .80 in the seventh and eighth grades. The next closest relationship is found between the ability to do the thought problems and the ability to do the tasks involved in the Character Scales (.78). The correlation between the ability to answer the information questions and the ability to do the character tasks is a little below .70.

TABLE 14

CORRELATIONS BETWEEN INFORMATION AND THOUGHT SCALES

Scales	Grade	Sex	No.	<i>r</i>
Information A—Thought A	8	Male	115	.466
Information B—Thought B	8	Male	115	.516
Information A—Thought B	8	Male	115	.539
Information B—Thought A	8	Male	115	.483
Information A—Thought A	7	Male	79	.678
Information B—Thought B	7	Male	79	.823
Information A—Thought B	7	Male	79	.662
Information B—Thought A	7	Male	79	.657
Information A—Thought A	8	Female	141	.637
Information B—Thought B	8	Female	141	.611
Information A—Thought B	8	Female	141	.542
Information B—Thought A	8	Female	141	.658
Information A—Thought A	7	Female	111	.476
Information B—Thought B	7	Female	111	.648
Information A—Thought B	7	Female	111	.439
Information B—Thought A	7	Female	111	.731
Information A—Thought A	8	Both	256	.628
Information B—Thought B	8	Both	256	.625
Information A—Thought B	8	Both	256	.592
Information B—Thought A	8	Both	256	.653
Information A—Thought A	7	Both	190	.600
Information B—Thought B	7	Both	190	.757
Information A—Thought B	7	Both	190	.608
Information B—Thought A	7	Both	190	.718

TABLE 15

CORRELATIONS BETWEEN INFORMATION AND CHARACTER SCALES

Scales	Grade	Sex	No.	<i>r</i>
Information A—Character A	8	Male	115	.455
Information B—Character B	8	Male	115	.387
Information A—Character B	8	Male	115	.494
Information B—Character A	8	Male	115	.400
Information A—Character A	7	Male	79	.660
Information B—Character B	7	Male	79	.557
Information A—Character B	7	Male	79	.568
Information B—Character A	7	Male	79	.631
Information A—Character A	8	Female	141	.551
Information B—Character B	8	Female	141	.613
Information A—Character B	8	Female	141	.548
Information B—Character A	8	Female	141	.579

TABLE 15—*Continued*

CORRELATIONS BETWEEN INFORMATION AND CHARACTER SCALES

Scales	Grade	Sex	No.	<i>r</i>
Information A—Character A	7	Female	111	.452
Information B—Character B	7	Female	111	.621
Information A—Character B	7	Female	111	.459
Information B—Character A	7	Female	111	.673
Information A—Character A	8	Both	256	.526
Information B—Character B	8	Both	256	.546
Information A—Character B	8	Both	256	.543
Information B—Character A	8	Both	256	.557
Information A—Character A	7	Both	190	.521
Information B—Character B	7	Both	190	.575
Information A—Character B	7	Both	190	.492
Information B—Character A	7	Both	190	.626

TABLE 16

CORRELATIONS BETWEEN THOUGHT AND CHARACTER SCALES

Scales	Grade	Sex	No.	<i>r</i>
Thought A—Character A	8	Male	115	.596
Thought B—Character B	8	Male	115	.569
Thought A—Character B	8	Male	115	.560
Thought B—Character A	8	Male	115	.531
Thought A—Character A	7	Male	79	.666
Thought B—Character B	7	Male	79	.583
Thought A—Character B	7	Male	79	.529
Thought B—Character A	7	Male	79	.647
Thought A—Character A	8	Female	141	.748
Thought B—Character B	8	Female	141	.668
Thought A—Character B	8	Female	141	.724
Thought B—Character A	8	Female	141	.718
Thought A—Character A	7	Female	111	.617
Thought B—Character B	7	Female	111	.576
Thought A—Character B	7	Female	111	.597
Thought B—Character A	7	Female	111	.613
Thought A—Character A	8	Both	256	.702
Thought B—Character B	8	Both	256	.648
Thought A—Character B	8	Both	256	.674
Thought B—Character A	8	Both	256	.663
Thought A—Character A	7	Both	190	.640
Thought B—Character B	7	Both	190	.578
Thought A—Character B	7	Both	190	.571
Thought B—Character A	7	Both	190	.622

TABLE 17

CORRELATIONS BETWEEN ABILITIES

(r's of previous tables corrected for attenuation)

Scales	Grade	Sex	No.	<i>r</i>
Information and Thought	8	Male	115	.782
Information and Thought	7	Male	79	.845
Information and Thought	8	Female	141	.803
Information and Thought	7	Female	111	.801
Information and Thought	8	Both	256	.822
Information and Thought	7	Both	190	.845
Average within same sex and grade $.81 \pm .01$				
Information and Character	8	Male	115	.620
Information and Character	7	Male	79	.723
Information and Character	8	Female	141	.711
Information and Character	7	Female	111	.768
Information and Character	8	Both	256	.686
Information and Character	7	Both	190	.689
Average within same sex and grade $.71 \pm .02$				
Thought and Character	8	Male	115	.750
Thought and Character	7	Male	79	.720
Thought and Character	8	Female	141	.890
Thought and Character	7	Female	111	.758
Thought and Character	8	Both	256	.839
Thought and Character	7	Both	190	.739
Average within same sex and grade $.78 \pm .02$				

SECTION IV

THE DERIVATION OF THE SCALES: GRADE DISTRIBUTIONS

During the months of May and June, 1916, preliminary tests were given to about twelve hundred children in three public schools of New York City. In only a few instances, however, was it possible to give all the questions to any one group. The easier questions in each series were tried by children in Grades 4 to 8, while the more difficult questions and problems were tried only in the sixth, seventh, and eighth grades.

From the larger lists of questions,—about two hundred for the Information series, one hundred for the Thought series and eighty for the Character series—such questions and problems were selected as tended to decrease in difficulty from grade to grade. These were then arranged in a tentative order of difficulty for each series and paired off in two groups of approximately equal difficulty. A further selection was made from these two groups by eliminating from each group those questions or problems that tended to lower the correlation between the two groups.

The two groups were then put together and rearranged into two further groups, questions of approximately equal difficulty being included in each group. On the basis of this preliminary testing, Information Scales A and B, Thought Scales A and B, and a part of Character Scales A and B were thus constructed. Character Scales A and B were extended to their present form and Character Scale L was constructed on the basis of additional tests given in one of the public schools in New York City during December, 1916, and January, 1917.

During the spring term of 1917 the history scales in their present form were given in five more public schools of New York City, the Information Scales being given during February and March to nearly 2,350¹ pupils in the second half of Grades 4

¹The exact number of pupils who attempted each scale in each grade is given in Table 23, Section IV.

to 8; the Thought Scales being given during April and May to nearly 2,050¹ pupils in the second half of Grades 4 to 8; the Character Scales being given during April and May to nearly 2,000¹ pupils in the second half of Grades 4 to 8. In two of the five public schools the pupils tried all of the scales. In order to insure uniformity in the results the tests were all given and scored by the author and his wife.

The schools selected for the final tests differed widely as far as the economic and social background of the pupils was concerned. In fact, the differences were as great as one would probably find in any school system, and certainly very, very much greater than the difference between any two school systems. Despite these differences, as well as the other differences among the schools selected, the order of difficulty for the questions is nearly the same for the different schools, as well as for different grades within the same school, as is shown below:

r for Information Scale ² A	$\left\{ \begin{array}{l} \text{in Grade 8 between Schools W and X} = .97 \\ \text{in Grade 6 between Schools W and X} = .97 \\ \text{in School W between Grades 6 and 8} = .96 \\ \text{in School X between Grades 6 and 8} = .95 \end{array} \right.$
r for Thought Scale A	$\left\{ \begin{array}{l} \text{in Grade 8 between Schools W and Y} = .90 \\ \text{in Grade 6 between Schools W and Y} = .94 \\ \text{in School W between Grades 6 and 8} = .88 \\ \text{in School Y between Grades 6 and 8} = .88 \end{array} \right.$
r for Character Scale A	$\left\{ \begin{array}{l} \text{in Grade 8 between Schools W and Z} = .93 \\ \text{in Grade 6 between Schools W and Z} = .96 \\ \text{in School W between Grades 6 and 8} = .87 \\ \text{in School Z between Grades 6 and 8} = .87 \end{array} \right.$

The number of individuals who took the tests is thus sufficient to give a useful grading of the tasks for difficulty for the kind of pupils in question. It will be desirable to check through all the ratings with children from different school systems in different localities, using different courses of study in history. This can be done in connection with the practical use of the scales. Even as they stand, the scales are surely useful. After they have been used in various places the author hopes to make a final revision of the ratings of each task for difficulty.

¹ The exact number of pupils who attempted each scale in each grade is given in Table 23, Section IV.

² These coefficients were calculated by the Spearman "Foot-rule" formula.

ADMINISTRATION OF THE TESTS

Inasmuch as the purpose of the work was to arrange a series of questions or problems graded in difficulty and to determine the distance each pupil could reach in these series, rather than to measure the quantity that could be accomplished in a given time, the pupils were given an opportunity to complete their work. One school period of forty-five minutes was adequate for at least 90 per cent of the pupils to complete any one of the scales. Although the pupils who did not finish within the forty-five minutes were in nearly all cases given enough time in which to complete their work, very little was achieved in the extra time allowed, as the more difficult questions were answered correctly almost entirely by the children who did their work quickly and who completed the task somewhat before the end of the period. In most cases the B scale was given during the period immediately following that in which the A scale was given. In cases where the pupils did not have to change rooms at the end of the period the B scales were given out to each pupil as soon as the A scale was finished and handed in. In all cases the pupils handed in their work as soon as it was completed. As soon as the papers for the A scales had been distributed the following directions were given to the pupils, being repeated for the B scale only when the B scale was given in a period that did not at once follow the period in which the A scale was given:

DIRECTIONS USED IN GIVING INFORMATION SCALES A AND B

Fill in the blank spaces at the top of the sheets. As soon as you have done this begin answering the questions, writing your answers in the little boxes just beneath the questions. Make your answers brief but clear and definite. For instance, in answering the first question, if you think Columbus found the Chinese in America, write the word "Chinese"; do not take the time to write the sentence: "Columbus found the Chinese in America." Make your answers clear and definite. If, for instance, in answering a question you wish to use the word "boat" and there might be several different kinds of boats, tell whether you mean a steam boat, a row boat or whatever kind of a boat you do mean. Read the questions carefully before answering them. In question 10, for instance, it tells you to "Pick out the thing that you think happened first and put the '1' in front of it," not after it. "Then pick out the thing which happened next and put the '2' in front of it and so on until you have put the '5' in front of the thing which happened last." In question 19, for instance, it asks "Which *one* of these things. . . ?" To put two or three of the things down would, of course, make your answer wrong.

DIRECTIONS USED IN GIVING THOUGHT SCALES A AND B

Fill in the blank spaces at the top of the sheets. In each of the little boxes you will find a paragraph or in some cases two or more paragraphs giving you certain facts. Below the paragraph or paragraphs you will find a question, and in some cases, two or three questions. These are not memory questions; that is, they are not questions to which you are expected to recall an answer which you have learned at some time in the past. Read the paragraph or paragraphs carefully, and from the facts given there think out the answer for yourself. Do not write more than is necessary to make your answer clear and accurate.

DIRECTIONS USED IN GIVING CHARACTER SCALES A AND B

Fill in the blank spaces at the top of the sheet. In each of these boxes you will find one or more paragraphs telling a story. Below the paragraphs in each case you will find a direction similar to this one in question 1,—“Draw a line under the three of the following words which you think best describe the action of these white men.” In each question draw a line under those three of the ten words which you think best describe the people who are doing something in the story, or the action of these people, or the character of these people. In each case, underline three words and only three. Your answer cannot be correct if you underline only two words or more than three words.

DIRECTIONS USED IN GIVING CHARACTER SCALE L

Fill in the blank spaces at the top of the sheet. In each of these boxes you will find one or more paragraphs telling a story. Below the paragraphs in each case you will find a direction similar to this one in question 1,—“Put a check mark in front of the three of the following motives which you think were the ones which most likely prompted Elizabeth Zane to go after the powder.” When you do something you usually have reasons or motives for doing it. In the same way these people probably had reasons or motives for doing what they did. In each question put a check mark in front of those three of the ten motives which you think most likely prompted the people to do what they did in each story. Put your check marks on the dotted line just in front of the capital letter with which the motive begins.

DISTRIBUTION OF SCORES

'In Tables 18 to 21 are given the distribution of the scores made by the pupils in Grades 4 to 8, the scores for Information Scales A and B being combined, those for Thought Scales A and B being combined, and those for Character Scales A and B also being combined. Although the questions and problems vary widely in difficulty, the ability to do each question or problem in any set of scales is rated the same as the ability to do any other question or problem in the same set of scales. In scoring the

answers partial credits were given as indicated in the keys to the scales in Section VII. A pupil getting three questions each one-third¹ correct or one question two-thirds correct and another question one-third correct received the same credit as he would if he had done one question completely correct.

Tables 18 to 21 should be read as follows: Table 18—in Grade 4, one pupil out of the 492 pupils did correctly less than one out of the 63 Information questions, three pupils out of the 492 pupils did correctly at least one but less than two out of the 63 Information questions, two pupils out of the 492 pupils did correctly at least two but less than three out of the 63 Information questions. At the bottom of the tables, the median, 9.034, indicates that the median pupil or the 246th pupil of Grade 4 did 9.034 questions correctly. The 25 percentile, 6.75, shows that the 123rd pupil from the bottom, counting 25 per cent of the way through the 492 pupils, did 6.75 questions correctly, while the 75 percentile, 11.727, shows that the 369th pupil from the bottom, counting 75 per cent of the way through the 492 pupils, did 11.727 questions correctly.

¹ Answers scored as one-third or two-thirds correct were in reality very much more than one-third or two-thirds correct.

TABLE 18

DISTRIBUTION OF SCORES IN INFORMATION SCALES A AND B COMBINED

	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
0-0.9	1				
1-1.9	3				
2-2.9	2				
3	15				
4	22	1			
5	41	2	1		
6	52	4	0	2	
7	49	4	1	0	
8	59	8	3	1	
9	58	19	1	1	
10	49	15	6	0	1
11	22	28	8	7	0
12	28	27	11	6	2
13	28	30	7	8	2
14	16	31	22	12	1
15	11	28	14	9	4
16	11	24	28	17	5
17	7	24	26	14	3
18	4	23	22	18	7
19	2	24	16	16	2
20	5	27	25	15	7
21	3	25	28	13	10
22	0	11	24	16	11
23	2	11	25	14	13
24	1	13	28	13	13
25	1	14	28	20	14
26		7	24	17	16
27		4	31	21	14
28		6	17	16	24
29		3	14	12	26
30		3	16	14	25
31		2	16	16	25
32		1	13	19	25
33		1	9	11	17
34		1	11	11	21
35		2	11	8	20
36			4	17	24
37			1	14	17
38			5	6	20
39			7	5	16
40			2	9	13
41			2	5	13
42			3	2	12
43			2	1	4
44			2	2	9
45			1	4	5
46			1	0	4
47				0	8
48				1	4
49					0
50					2
51					1
52					
53					
54					
55					
56					
57					
58					
59					
60					
61					
62					
63					
No. of pupils	492	423	516	413	460
Median	9.034	16.604	23.600	26.264	32.200
25 percentile	6.750	12.916	18.045	19.515	27.285
75 percentile	11.727	20.935	28.470	32.618	37.764

TABLE 19
DISTRIBUTION OF SCORES IN THOUGHT SCALES A AND B COMBINED

	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
0—0.9	39	3			
1—1.9	43	5			
2—2.9	61	12	2		
3	74	24	1	1	1
4	57	15	5	0	0
5	55	23	5	0	0
6	47	33	6	2	0
7	18	30	7	0	0
8	19	27	10	6	0
9	10	27	10	2	1
10	6	19	15	4	5
11	9	19	10	6	2
12	5	19	7	8	0
13	1	16	10	7	3
14	5	18	28	7	0
15	1	18	12	6	4
16	1	13	16	5	5
17	1	13	16	4	3
18	0	8	20	10	0
19	0	6	15	4	6
20	0	8	18	13	8
21	1	5	11	7	7
22	0	4	13	13	14
23	0	5	11	8	3
24	1	5	11	11	10
25		3	13	11	9
26		7	12	18	10
27		0	8	14	4
28		3	21	12	13
29		4	13	14	4
30		2	8	15	15
31		0	10	18	20
32		0	8	14	12
33		0	12	6	16
34		0	8	10	14
35		1	7	7	12
36			6	13	11
37			3	7	18
38			4	9	17
39			6	8	18
40			6	7	14
41			2	4	23
42			3	7	12
43			1	4	19
44			2	7	11
45			2	6	13
46				5	5
47				3	14
48				1	6
49				1	3
50					4
51					4
52					4
53					3
54					1
55					0
56					1
57					
58					
59					
No. of pupils	454	395	414	355	398
Median	4.175	9.944	20.666	28.041	36.181
25 percentile	2.516	6.507	14.553	20.519	28.654
75 percentile	6.244	15.347	28.881	35.035	42.041

TABLE 20

DISTRIBUTION OF SCORES IN CHARACTER SCALES A AND B COMBINED

	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
0—0.9	27	3	1		
1—1.9	60	8	3		
2—2.9	79	19	5		
3	48	23	7		
4	47	33	9	4	1
5	38	26	27	6	0
6	21	35	26	8	1
7	14	16	20	7	4
8	10	27	30	9	5
9	14	20	22	14	8
10	9	19	32	12	8
11	4	13	33	18	5
12	3	18	18	16	14
13	7	11	26	19	13
14	3	12	20	14	8
15	3	8	22	27	16
16	1	8	19	14	19
17	1	3	16	10	20
18	1	4	19	15	16
19	0	5	12	17	23
20	0	3	11	16	26
21	2	1	19	15	23
22	0	2	12	21	16
23	1	4	9	13	20
24		1	8	10	13
25		3	9	9	22
26		1	8	10	17
27		2	8	10	17
28		0	6	12	16
29		1	1	13	19
30		1	5	11	24
31			4	5	13
32			3	3	11
33			0	3	10
34			1	4	6
35			0	1	6
36			1	2	3
37					
38					
No. of pupils	393	330	472	358	423
Median	3.635	8.074	13.115	18.733	22.093
25 percentile	2.142	4.894	8.666	12.718	17.187
75 percentile	5.888	12.305	18.947	24.350	28.140

TABLE 21

DISTRIBUTION OF SCORES IN CHARACTER SCALE L

	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
0—0.9	170	63	33	12	2
1—1.9	121	77	59	25	12
2—2.9	65	63	50	40	23
3	24	39	64	46	33
4	10	30	63	32	41
5	7	26	53	31	35
6	1	13	42	35	33
7	1	7	44	31	50
8		6	19	36	48
9		2	12	29	47
10		2	14	26	48
11		2	7	5	31
12		1	4	6	18
13			0		2
14			1		
No. of pupils	399	331	465	354	423
Median	1.243	2.405	4.420	5.709	7.650
25 percentile	.586	1.256	2.485	3.250	4.872
75 percentile	2.127	4.208	6.636	8.375	9.856

MEDIAN ACHIEVEMENT OF EACH GRADE IN EACH SCALE

In Table 22 are given the median achievements of each grade in each scale while in Table 23 are given the number of pupils from whose scores the medians of Table 22 are derived.

TABLE 22

GRADE MEDIANS—BOYS AND GIRLS

Scale	Information A	Information B	Thought A	Thought B	Character A	Character B	Character L
Grade 4	4.895	4.577	2.539	1.902	1.958	1.766	1.243
Grade 5	8.859	8.250	5.473	5.163	4.188	3.981	2.404
Grade 6	11.800	11.872	10.560	10.680	6.914	6.226	4.420
Grade 7	12.464	13.638	14.141	14.103	9.750	8.928	5.709
Grade 8	15.679	16.739	17.571	18.580	11.885	10.678	7.650

TABLE 23

NUMBER OF PUPILS WHO ATTEMPTED EACH SCALE IN EACH GRADE

Scale	Information A	Information B	Thought A	Thought B	Character A	Character B	Character L
Grade 4	499	498	459	457	400	397	399
Grade 5	432	434	400	401	331	332	331
Grade 6	532	527	428	419	472	473	465
Grade 7	426	415	362	360	358	358	354
Grade 8	460	462	404	402	427	426	423
Totals	2,349	2,336	2,053	2,039	1,988	1,986	1,972

Figs. 1 to 15 show graphically the facts given in Tables 18, 19, and 20. The numbers along the base line represent the number of questions or tasks correctly done, while those along the vertical line represent the number of pupils.

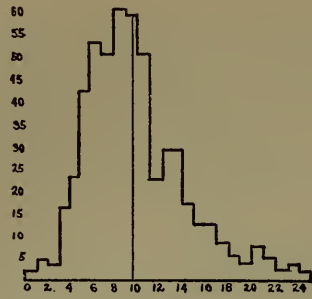


Fig. 1. Grade 4

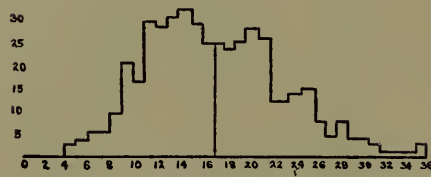


Fig. 2. Grade 5

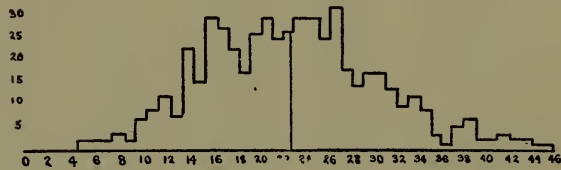


Fig. 3. Grade 6

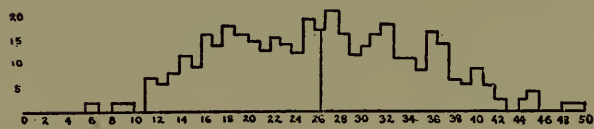


Fig. 4. Grade 7

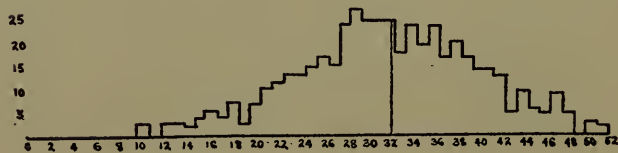


Fig. 5. Grade 8

DISTRIBUTION FOR INFORMATION SCALES A AND B COMBINED

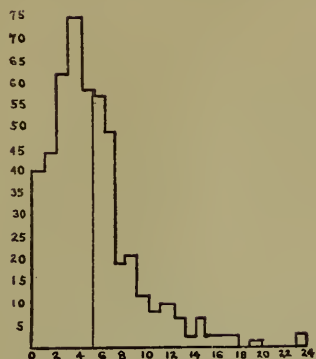


Fig. 6. Grade 4

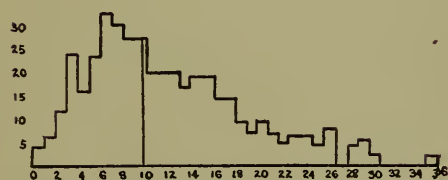


Fig. 7. Grade 5

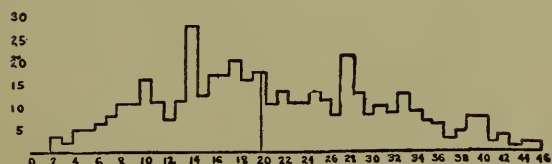


Fig. 8. Grade 6

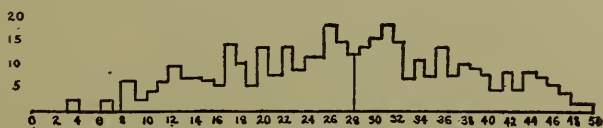


Fig. 9. Grade 7

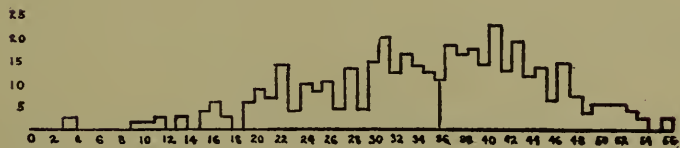


Fig. 10. Grade 8

DISTRIBUTION FOR THE THOUGHT SCALES A AND B COMBINED

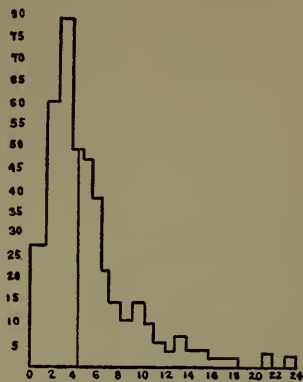


Fig. 11. Grade 4

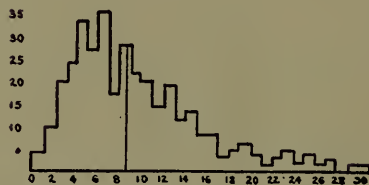


Fig. 12. Grade 5

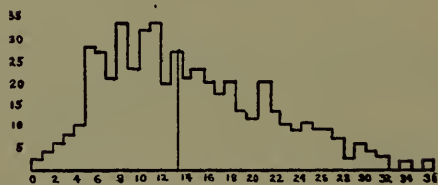


Fig. 13. Grade 6

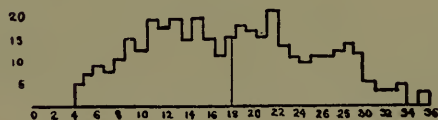


Fig. 14. Grade 7

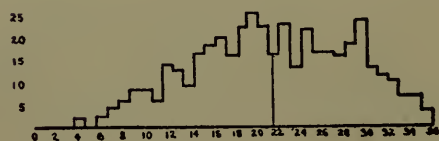


Fig. 15. Grade 8

DISTRIBUTION FOR THE CHARACTER SCALES A AND B COMBINED

SECTION V

OVERLAPPING AND DIFFERENCE BETWEEN MEDIAN DIFFICULTIES FOR THE DIFFERENT GRADES

It will be noted that wide variability in each grade and extensive overlapping of grades are characteristics of the history scales just as they are of the scales that have been worked out in spelling, language, and arithmetic. Tables 24 to 27 give the number and per cent of pupils in each grade who equal or exceed the achievement of the median pupil in each other grade.

Tables 24 to 27 should be read as follows: Table 24—29 pupils out of 492 pupils, or 5.8 per cent of Grade 4, did as well as or better than the median pupil of Grade 5; 3 pupils out of 492 pupils, or 0.6 per cent of Grade 4, did as well as or better than the median pupil of Grade 6; 403 pupils out of 423 pupils, or 95.2 per cent of Grade 5, did as well as or better than the median pupil of Grade 4; 61 pupils out of 423 pupils, or 14.4 per cent of Grade 5, did as well as or better than the median pupil of Grade 6.

TABLE 24

NUMBER AND PER CENT OF PUPILS IN EACH GRADE WHOSE ABILITY EQUALLED
OR EXCEEDED THAT OF THE MEDIAN PUPIL IN EACH OTHER GRADE

Information Scales A and B combined

	Grade 4		Grade 5		Grade 6		Grade 7		Grade 8	
	No.	%	No.	%	No.	%	No.	%	No.	%
Grade 4 (No. = 492) (Med. = 9.034)			29	5.8	3	0.6	0	0.0	0	0.0
Grade 5 (No. = 423) (Med. = 16.604)	403				61		28		5	
		95.2			14.4		6.6		1.1	
Grade 6 (No. = 516) (Med. = 23.600)	511		425				186		71	
		99.0	82.3				36.0		13.7	
Grade 7 (No. = 413) (Med. = 26.264)	410		357		250				111	
		99.2	86.4		60.5				26.8	
Grade 8 (No. = 460) (Med. = 32.200)	460		447		397		361			
		100.0	97.1		86.3		78.4			

NUMBER AND PER CENT OF PUPILS IN EACH GRADE WHOSE ABILITY EQUALLED
OR EXCEEDED THAT OF THE MEDIAN PUPIL IN EACH OTHER GRADE

TABLE 25

Thought Scales A and B combined

	Grade 4		Grade 5		Grade 6		Grade 7		Grade 8	
	No.	%	No.	%	No.	%	No.	%	No.	%
Grade 4 (No. = 454) (Med. = 4.175)			32		2		0		0	
				7.0		0.4		0.0		0.0
Grade 5 (No. = 395) (Med. = 9.944)	348				42		10		0	
		88.1				10.6		2.5		0.0
Grade 6 (No. = 414) (Med. = 20.666)	410		369				121		34	
		99.0		89.1				29.2		8.2
Grade 7 (No. = 355) (Med. = 28.041)	354		344		264				80	
		99.7		96.9		74.3				22.5
Grade 8 (No. = 398) (Med. = 36.181)	397		396		367		306			
		99.7		99.5		92.2		76.8		

TABLE 26

Character Scales A and B combined

	Grade 4		Grade 5		Grade 6		Grade 7		Grade 8	
	No.	%	No.	%	No.	%	No.	%	No.	%
Grade 4 (No. = 393) (Med. = 3.635)			58		18		3		1	
				14.7		4.5		0.7		0.2
Grade 5 (No. = 330) (Med. = 8.074)	285				69		25		15	
		86.3				20.9		7.5		4.5
Grade 6 (No. = 472) (Med. = 13.115)	459		372				122		74	
		97.2		78.8				25.8		15.6
Grade 7 (No. = 358) (Med. = 18.733)	358		332		262				125	
		100.0		92.7		73.1				34.9
Grade 8 (No. = 423) (Med. = 22.093)	423		417		376		289			
		100.0		98.5		88.8		68.3		

TABLE 27

Character Scale L

	Grade 4		Grade 5		Grade 6		Grade 7		Grade 8	
	No.	%	No.	%	No.	%	No.	%	No.	%
Grade 4 (No. = 399) (Med. = 1.243)			82		15		4		0	
				20.5		3.7		1.0		0.0
Grade 5 (No. = 331) (Med. = 2.404)	249				76		41		15	
		75.2				22.9		12.3		4.5
Grade 6 (No. = 465) (Med. = 4.420)	418		353				158		72	
		89.9		75.9				33.9		15.4
Grade 7 (No. = 354) (Med. = 5.709)	336		301		218				113	
		94.9		85.0		61.5				31.9
Grade 8 (No. = 423) (Med. = 7.650)	418		400		336		287			
		98.8		94.5		79.4		67.8		

Assuming that these scales are reasonably valid means of measuring the three kinds of ability selected for this study, Figs. 1 to 15 show that these abilities conform closely to the general characteristics of the normal surface of frequency given in Fig. 16.

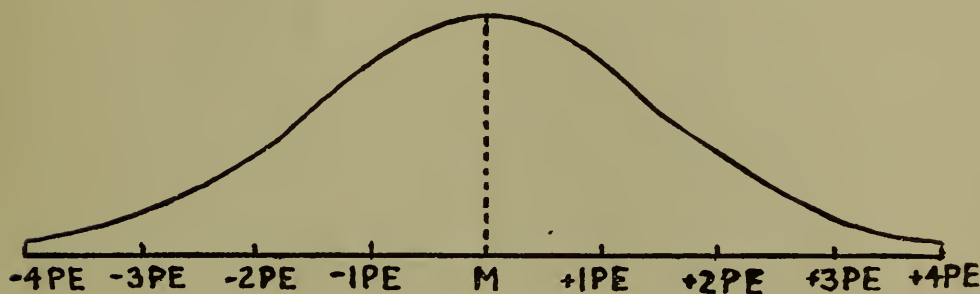


FIG. 16. NORMAL SURFACE OF FREQUENCY, WITH P.E. DISTANCES FROM THE MEDIAN

On the basis of this conformity, then, we may use the P.E. from the median as a unit of measurement of the variability. The P.E., or median deviation, or semi-interquartile range, is the distance cut off on the base line of the normal surface of frequency by one half or 25 per cent of the cases lying on either side of the median (M in Fig. 16). Since the curve tapers toward the extremes the percentage of cases cut off by the distance 1 P.E. decreases toward the extremes:

- 25% of the cases lying between the median, M, and 1 P.E.
- 41.13% of the cases lying between the median, M, and 2 P.E.
- 47.85% of the cases lying between the median, M, and 3 P.E.
- 49.65% of the cases lying between the median, M, and 4 P.E.

Table 28, taken directly from Dr. Buckingham's *Spelling Ability—Its Measurement and Distribution*, shows the amount of each per cent from 0.1 per cent to 49.9 per cent expressed in terms of P.E. This table is worked out on the basis of the frequency table given by Professor Edward L. Thorndike in *Mental and Social Measurements*, which is derived in turn from the fundamental table by W. F. Sheppard.

TABLE 28

P.E. VALUES CORRESPONDING TO GIVEN PER CENTS OF THE NORMAL SURFACE OF FREQUENCY, PER CENTS BEING TAKEN FROM THE MEDIAN

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9
0	.000	.004	.007	.011	.015	.019	.022	.026	.030	.033
1	.037	.041	.044	.048	.052	.056	.059	.063	.067	.071
2	.074	.078	.082	.085	.089	.093	.097	.100	.104	.108
3	.112	.115	.119	.123	.127	.130	.134	.138	.141	.145
4	.149	.153	.156	.160	.164	.168	.172	.175	.179	.183
5	.187	.190	.194	.198	.201	.205	.209	.213	.216	.220
6	.224	.228	.231	.235	.239	.243	.246	.250	.254	.258
7	.261	.265	.269	.273	.277	.280	.284	.288	.292	.296
8	.299	.303	.307	.311	.315	.318	.322	.326	.330	.334
9	.337	.341	.345	.349	.353	.357	.360	.364	.368	.372
10	.376	.380	.383	.387	.391	.395	.399	.403	.407	.410
11	.414	.418	.422	.426	.430	.434	.437	.441	.445	.449
12	.453	.457	.461	.464	.468	.472	.476	.480	.484	.489
13	.492	.496	.500	.504	.508	.512	.516	.519	.523	.527
14	.531	.535	.539	.543	.547	.551	.555	.559	.563	.567
15	.571	.575	.579	.583	.588	.592	.596	.600	.603	.608
16	.612	.616	.620	.624	.628	.632	.636	.640	.644	.648
17	.652	.656	.660	.665	.669	.673	.677	.681	.685	.689
18	.693	.698	.702	.706	.710	.714	.719	.723	.727	.731
19	.735	.740	.744	.748	.752	.756	.761	.765	.769	.773
20	.778	.782	.786	.790	.795	.799	.803	.807	.812	.816
21	.820	.825	.829	.834	.838	.842	.847	.851	.855	.860
22	.864	.869	.873	.878	.882	.886	.891	.895	.900	.904
23	.909	.913	.918	.922	.927	.931	.936	.940	.945	.949
24	.954	.958	.963	.968	.972	.977	.982	.986	.991	.996
25	1.000	1.005	1.009	1.014	1.019	1.024	1.028	1.033	1.038	1.042
26	1.047	1.052	1.057	1.062	1.067	1.071	1.076	1.081	1.086	1.091
27	1.096	1.101	1.105	1.110	1.115	1.120	1.125	1.130	1.135	1.140
28	1.145	1.150	1.155	1.160	1.165	1.170	1.176	1.181	1.186	1.191
29	1.196	1.201	1.206	1.211	1.217	1.222	1.227	1.232	1.238	1.243
30	1.248	1.253	1.259	1.264	1.269	1.275	1.279	1.286	1.291	1.296
31	1.302	1.307	1.313	1.318	1.324	1.329	1.335	1.340	1.346	1.351
32	1.357	1.363	1.368	1.374	1.380	1.386	1.391	1.397	1.403	1.409
33	1.415	1.421	1.427	1.432	1.438	1.444	1.450	1.456	1.462	1.469
34	1.475	1.481	1.487	1.493	1.499	1.506	1.512	1.518	1.524	1.531
35	1.537	1.543	1.549	1.556	1.563	1.569	1.576	1.582	1.589	1.595
36	1.602	1.609	1.616	1.622	1.629	1.636	1.643	1.649	1.656	1.663
37	1.670	1.677	1.685	1.692	1.699	1.706	1.713	1.720	1.728	1.735
38	1.742	1.749	1.757	1.765	1.772	1.780	1.788	1.795	1.803	1.811
39	1.819	1.827	1.835	1.843	1.851	1.859	1.867	1.875	1.884	1.892
40	1.900	1.909	1.918	1.926	1.935	1.944	1.953	1.962	1.971	1.979
41	1.988	1.997	2.007	2.016	2.026	2.035	2.044	2.054	2.064	2.074
42	2.083	2.093	2.103	2.114	2.124	2.134	2.145	2.155	2.166	2.177
43	2.188	2.199	2.211	2.222	2.234	2.245	2.257	2.269	2.281	2.293
44	2.305	2.318	2.331	2.344	2.357	2.370	2.384	2.397	2.411	2.425
45	2.439	2.453	2.468	2.483	2.498	2.514	2.530	2.546	2.562	2.579
46	2.597	2.614	2.631	2.648	2.667	2.686	2.706	2.726	2.746	2.767
47	2.789	2.811	2.834	2.857	2.881	2.905	2.932	2.958	2.986	3.015
48	3.044	3.077	3.111	3.146	3.182	3.219	3.258	3.300	3.346	3.395
49	3.450	3.506	3.571	3.643	3.725	3.820	3.938	4.083	4.275	4.600
50										

Tables 29 to 32 show the percentage of pupils whose ability lay between the median of each grade and that of each other grade with the P.E. values corresponding to each per cent. These tables should be read as follows: Table 29—there are 44.2 per cent of the fourth grade pupils whose ability in the Information Scales is equal to or greater than the ability of the median pupil of the fourth grade and only equal to or less than the ability of

the median pupil of the fifth grade. This corresponds to a distance of 2.331 P.E. between the median of the fourth grade and that of the fifth grade. There are 49.4 per cent of the fourth grade pupils whose ability in the Information Scales is equal to or greater than the ability of the median pupil of the fourth grade and only equal to or less than the ability of the median pupil of the sixth grade. This corresponds to a distance of 3.725 P.E. between the median of the fourth grade and that of the sixth grade. There are 45.2 per cent of the fifth grade pupils whose ability in the Information Scales is equal to or greater than the ability of the median pupil of the fourth grade and only equal to or less than the ability of the median pupil of the fifth grade. This corresponds to a distance of—2.468 P.E. between the fifth grade median and that of the fourth grade.

The P.E. distances between the grade medians are determined on the basis of the per cent of pupils whose ability lies between the grade medians in question. Referring to Table 28, it will be seen that the 44.2 per cent lying between the median of Grade 4 and the median of Grade 5 corresponds to 2.331 P.E. while the 45.2 per cent lying between the median of Grade 5 and the median of Grade 4 corresponds to 2.468 P.E.

TABLE 29

PER CENT OF PUPILS WHOSE ABILITY LAY BETWEEN THE MEDIAN OF EACH GRADE AND THAT OF EACH OTHER GRADE, WITH THE P.E. VALUES CORRESPONDING TO EACH PER CENT

Information Scales A and B combined

	Grade 4		Grade 5		Grade 6		Grade 7		Grade 8	
	%	P.E.	%	P.E.	%	P.E.	%	P.E.	%	P.E.
Grade 4			44.2	2.331	49.4	3.725				
Grade 5	45.2	-2.468			35.6	1.576	43.4	2.234	48.9	3.395
Grade 6	49.0	-3.450	32.3	-1.374			14.0	0.531	36.3	1.622
Grade 7	49.2	-3.571	36.4	-1.629	10.5	-0.395			23.2	0.918
Grade 8			47.1	-2.811	36.3	-1.622	28.4	-1.165		

TABLE 30

PER CENT OF PUPILS WHOSE ABILITY LAY BETWEEN THE MEDIAN OF EACH GRADE AND THAT OF EACH OTHER GRADE, WITH THE P.E. VALUES CORRESPONDING TO EACH PER CENT

Thought Scales A and B combined

	Grade 4		Grade 5		Grade 6		Grade 7		Grade 8	
	%	P.E.	%	P.E.	%	P.E.	%	P.E.	%	P.E.
Grade 4			43.0	2.188	49.6	3.938				
Grade 5	38.1	-1.749			39.4	1.851	47.5	2.905		
Grade 6	49.0	-3.450	39.1	-1.827			20.8	0.812	41.8	2.064
Grade 7	49.7	-4.083	46.9	-2.767	24.3	-0.968			27.5	1.120
Grade 8	49.7	-4.083	49.5	-3.820	42.2	-2.103	26.8	-1.086		

TABLE 31

PER CENT OF PUPILS WHOSE ABILITY LAY BETWEEN THE MEDIAN OF EACH GRADE AND THAT OF EACH OTHER GRADE, WITH THE P.E. VALUES CORRESPONDING TO EACH PER CENT

Character Scales A and B combined

	Grade 4		Grade 5		Grade 6		Grade 7		Grade 8	
	%	P.E.	%	P.E.	%	P.E.	%	P.E.	%	P.E.
Grade 4			35.3	1.556	45.5	2.514	49.3	3.643		
Grade 5	36.3	-1.622			29.1	1.201	42.5	2.134	45.5	2.514
Grade 6	47.2	-2.834	28.8	-1.186			24.2	0.963	34.4	1.499
Grade 7			42.7	-2.155	23.1	-0.913			15.1	0.575
Grade 8			48.5	-3.219	38.8	-1.803	18.3	-0.706		

TABLE 32

PER CENT OF PUPILS WHOSE ABILITY LAY BETWEEN THE MEDIAN OF EACH GRADE AND THAT OF EACH OTHER GRADE, WITH THE P.E. VALUES CORRESPONDING TO EACH PER CENT

Character Scale L

	Grade 4		Grade 5		Grade 6		Grade 7		Grade 8	
	%	P.E.	%	P.E.	%	P.E.	%	P.E.	%	P.E.
Grade 4			29.5	1.222	46.3	2.648	49.0	3.450		
Grade 5	25.2	-1.009			27.1	1.101	37.7	1.720	45.5	2.514
Grade 6	39.9	-1.892	25.9	-1.042			16.1	0.616	34.6	1.512
Grade 7	44.9	-2.425	35.0	-1.537	11.5	-0.434			18.1	0.698
Grade 8	48.8	-3.346	44.5	-2.370	29.4	-1.217	17.8	-0.685		

On the basis of the assumptions that the abilities measured are normally distributed and that the grades are equal in the variability of the abilities concerned, we should expect to find but a small variability in the distances between grades whether measured by the direct distances or the more remote distances. Inasmuch, however, as the direct distances are likely to show the least variability it would seem that they should be given the most weight. The same system of weighting has been adopted as that used by Dr. B. R. Buckingham in *Spelling Ability—Its Measurement and Distribution*, page 39. The very small difference between the average of the direct and indirect measures and the average of the same measures when weighted shows that the system of weighting selected is of very little moment.

Tables 33 to 36 give both the direct and the indirect distances between the grade medians, together with the average of these distances and the weighted average. These tables should be read as follows: Table 33—the direct distance between the fourth grade median and the fifth grade median is 2.331 P.E., the direct distance between the fifth grade median and the fourth grade median is 2.468 P.E., the indirect distance between the fourth

grade median and the fifth grade median, found by subtracting the distance between the fifth grade median and the sixth grade median, 1.576 P.E., from the distance between the fourth grade median and the sixth grade median, 3.725 P.E., is 2.149 P.E., the indirect distance between the fifth grade median and the fourth grade median, found by subtracting the distance between the sixth grade median and the fifth grade median, 1.374 P.E., from the distance between the sixth grade median and the fourth grade median, 3.450 P.E., is 2.076 P.E.

The weighted average is found by giving the two direct distances a weight of six each and the two indirect distances a weight of four each. The indirect distances found from the next wider interval, 4-7-5-7 and 7-4-7-5, would be given a weight of three each, while those found from the widest interval, 4-8-5-8 and 8-4-8-5, would be given a weight of only one each.

TABLE 33

DIRECT AND DERIVED VALUES OF MEDIAN DISTANCES IN TERMS OF P.E.
Information Scales A and B combined

Grade 4-5		Grade 5-6		Grade 6-7		Grade 7-8	
4-5	2.331	5-6	1.576	6-7	.531	7-8	.918
5-4	2.468	6-5	1.374	7-6	1.395	8-7	1.165
4-6-5-6	2.149	4-6-4-5	1.394	4-7-4-6		4-8-4-7	
6-4-6-5	2.076	6-4-5-4	.982	7-4-6-4		8-4-7-4	
4-7-5-7		5-7-6-7	1.703	5-7-5-6	.658	5-8-5-7	1.161
7-4-7-5		7-5-7-6	1.234	7-5-6-5	.255	8-5-7-5	1.182
4-8-5-8		5-8-6-8	1.773	6-8-7-8	.704	6-8-6-7	1.091
8-4-8-5		8-5-8-6	1.189	8-6-8-7	.457	8-6-7-6	1.227
Average	2.256		1.403		.500		1.124
Weighted Average	2.284		1.407		.494		1.107

TABLE 34

DIRECT AND DERIVED VALUES OF MEDIAN DISTANCES IN TERMS OF P.E.
Thought Scales A and B combined

Grade 4-5		Grade 5-6		Grade 6-7		Grade 7-8	
4-5	2.188	5-6	1.851	6-7	.812	7-8	1.120
5-4	1.749	6-5	1.827	7-6	.968	8-7	1.086
4-6-5-6	2.087	4-6-4-5	1.727	4-7-4-6		4-8-4-7	
6-4-6-5	1.623	6-4-5-4	1.722	7-4-6-4		8-4-7-4	
4-7-5-7		5-7-6-7	2.093	5-7-5-6	1.054	5-8-5-7	
7-4-7-5		7-5-7-6	1.799	7-5-6-5	.940	8-5-7-5	
4-8-5-8		5-8-6-8		6-8-7-8	.944	6-8-6-7	1.252
8-4-8-5		8-5-8-6		8-6-8-7	1.017	8-6-7-6	1.135
Average	1.912		1.836		.955		1.148
Weighted Average	1.923		1.836		.946		1.139

TABLE 35

DIRECT AND DERIVED VALUES OF MEDIAN DISTANCES IN TERMS OF P.E.
Character Scales A and B combined

Grade 4-5		Grade 5-6		Grade 6-7		Grade 7-8	
4-5	1.556	5-6	1.201	6-7	.963	7-8	.575
5-4	1.622	6-5	1.186	7-6	.913	8-7	.706
4-6-5-6	1.313	4-6-4-5	.958	4-7-4-6		4-8-4-7	
6-4-6-5	1.648	6-4-5-4	1.212	7-4-6-4		8-4-7-4	
4-7-5-7		5-7-6-7	1.171	5-7-5-6	.933	5-8-5-7	.380
7-4-7-5		7-5-7-6	1.242	7-5-6-5	.969	8-5-7-5	1.064
4-8-5-8		5-8-6-8	1.015	6-8-7-8	.924	6-8-6-7	.536
8-4-8-5		8-5-8-6	1.416	8-6-8-7	1.097	8-6-7-6	.890
Average	1.534		1.175		.966		.691
Weighted Average	1.545		1.174		.962		.681

TABLE 36

DIRECT AND DERIVED VALUES OF MEDIAN DISTANCES IN TERMS OF P.E.
Character Scale L

Grade 4-5		Grade 5-6		Grade 6-7		Grade 7-8	
4-5	1.222	5-6	1.101	6-7	.616	7-8	.698
5-4	1.009	6-5	1.042	7-6	.434	8-7	.685
4-6-5-6	1.547	4-6-4-5	1.426	4-7-4-6	.802	4-8-4-7	
6-4-6-5	.850	6-4-5-4	.883	7-4-6-4	.533	8-4-7-4	
4-7-5-7	1.730	5-7-6-7	1.104	5-7-5-6	.619	5-8-5-7	.794
7-4-7-5	.888	7-5-7-6	1.103	7-5-6-5	.495	8-5-7-5	.833
4-8-5-8		5-8-6-8	1.002	6-8-7-8	.814	6-8-6-7	.896
8-4-8-5		8-5-8-6	1.153	8-6-8-7	.532	8-6-7-6	.783
Average	1.207		1.101		.607		.781
Weighted Average	1.185		1.099		.592		.765

It will be noted that in all the scales the largest grade interval falls between Grades 4 and 5, the second largest grade interval falls between Grades 5 and 6, while the smallest grade interval, with the exception of Character Scales A and B combined, falls between Grades 6 and 7. The increase in the grade interval between the seventh and eighth grades may be accounted for in part at least by the extra effort that is put forth by many of the eighth grade pupils to pass the examinations for graduation, the emphasis in the class work probably being mainly placed on such subject matter as would show the greatest influence in the Information Scale and Thought Scale results.

SECTION VI

MEASURING THE DIFFICULTY OF EACH QUESTION OR TASK

Tables 37 to 43 give the per cent of pupils in each grade who correctly answered each question or problem in the seven scales. These tables are read as follows: Table 37—in Grade 4, 86.3 per cent of the 499 pupils tested correctly answered question 1 of Information Scale A; in Grade 5, 97.7 per cent of the 432 pupils tested correctly answered question 1 of Information Scale A.

TABLE 37
PER CENT OF PUPILS WHO ANSWERED EACH QUESTION CORRECTLY
Information A

	Grade 4 No. = 499	Grade 5 No. = 432	Grade 6 No. = 532	Grade 7 No. = 426	Grade 8 No. = 460
1	86.3	97.7	96.4	98.5	98.4
2	82.3	90.7	96.8	96.9	98.2
3	77.3	91.4	90.7	91.0	93.4
4	46.1	60.1	85.5	87.3	96.0
5	50.1	78.2	80.8	77.9	70.4
6	14.8	34.9	58.4	82.8	92.1
7	31.8	81.9	81.2	86.8	90.4
8	11.2	38.8	73.8	73.2	71.7
9	19.0	47.4	58.2	67.3	72.8
10	9.1	30.2	41.2	52.8	66.7
11	1.9	11.0	52.7	46.1	66.3
12	16.6	50.0	37.2	43.6	56.5
13	1.0	8.5	68.6	38.9	66.5
14	1.8	38.1	34.6	39.2	49.3
15	0.8	10.6	29.8	30.5	43.4
16	17.4	32.8	56.5	69.9	84.7
17	0.4	52.0	35.3	36.1	54.5
18	¹	1.8	4.2	24.3	40.5
19	6.4	18.2	20.4	24.8	35.4
20	0.4	1.6	3.5	5.3	9.3
21	¹	0.5	9.3	17.1	31.4
22	¹	0.4	18.6	11.5	23.2
23	0.2	0.7	6.0	5.8	18.2
24	¹	0.0	0.0	0.0	4.3
25	¹	0.6	15.6	11.1	22.4
26	0.2	1.3	7.5	7.7	17.6
27	²	²	0.4	1.2	6.5
28	²	²	12.9	22.9	44.3
29	²	²	3.4	5.0	8.4
30	²	²	7.0	4.7	15.6
33	²	²	0.4	0.2	2.8
34	²	²	0.05	0.0	0.7

¹ Indicates that no pupils in the grade answered the question correctly.

² Indicates that the question was not tried by the grade.

TABLE 38

PER CENT OF PUPILS WHO ANSWERED EACH QUESTION CORRECTLY
Information B

	Grade 4 No. = 498	Grade 5 No. = 434	Grade 6 No. = 527	Grade 7 No. = 415	Grade 8 No. = 462
1	94.5	99.7	99.4	99.0	99.7
2	90.3	89.6	97.9	98.3	98.2
3	37.7	80.4	69.9	83.8	85.1
4	54.2	59.9	78.1	87.2	95.6
5	32.1	60.1	83.3	79.5	90.9
6	24.3	49.7	82.5	71.6	88.0
7	35.6	63.2	61.8	62.7	70.7
8	29.3	26.9	75.5	63.3	83.5
10	1.2	73.2	62.9	76.3	78.1
11	3.2	26.5	85.5	86.0	94.8
12	1.2	32.9	29.2	48.6	54.5
13	1.8	11.2	33.0	51.0	74.8
14	0.2	23.8	24.2	39.1	57.0
15	21.0	38.4	58.1	70.8	83.3
16	5.6	18.8	33.7	46.8	56.9
17	1.8	10.8	26.3	25.0	37.5
18	1	0.4	33.0	48.6	47.8
19	3.8	6.4	17.0	36.1	38.3
20	1	1	6.4	21.0	44.5
21	1	10.9	9.5	16.2	30.8
22	4.0	21.1	25.8	28.1	31.1
23	1	1	3.7	2.1	2.8
24	0.3	0.9	6.4	12.8	22.2
25	0.6	11.1	25.4	34.2	50.5
26	0.1	0.4	16.5	7.1	22.9
27	2	2	6.2	14.9	37.0
28	2	2	12.3	21.6	38.2
29	2	2	15.0	11.7	24.9
30	2	2	1.1	1.2	13.2
33	2	2	0.05	0.2	1.0
34	2	2	3.0	3.2	8.0

TABLE 39

PER CENT OF PUPILS WHO ANSWERED EACH QUESTION CORRECTLY
Thought A

	Grade 4 No. = 459	Grade 5 No. = 400	Grade 6 No. = 428	Grade 7 No. = 362	Grade 8 No. = 404
1	55.1	72.7	73.8	78.4	87.8
2	62.8	72.5	80.9	87.8	91.8
3	32.1	58.9	64.7	69.9	80.1
4	26.3	45.0	57.7	67.1	72.2
5a	2.6	18.2	41.3	54.5	72.5
5b	4.5	20.5	60.7	78.5	83.8
5c	6.3	31.0	67.7	84.5	91.5
6	1	13.8	52.7	51.8	67.8
7	14.0	25.4	41.0	54.0	60.9
8	0.5	17.4	42.0	45.3	62.7
10a	1	1.0	2.5	7.4	19.5
10b	2.8	15.7	43.9	53.0	74.2
10c	0.2	5.9	22.9	37.0	63.1
11a	2.2	17.1	52.3	64.8	75.0

TABLE 39—Continued

PER CENT OF PUPILS WHO ANSWERED EACH QUESTION CORRECTLY
Thought A

	Grade 4 No. = 459	Grade 5 No. = 400	Grade 6 No. = 428	Grade 7 No. = 362	Grade 8 No. = 404
11b	0.3	6.0	29.9	41.7	53.8
12	11.9	25.2	45.7	57.4	75.4
13	2.8	24.5	41.0	48.2	63.7
14	1.9	8.2	55.8	55.2	58.6
15a	1.8	6.2	13.0	40.8	49.2
15b	¹	1.5	2.1	26.5	19.5
16a	²	27.9	41.5	57.5	66.9
16b	²	7.0	20.3	41.4	47.2
17	²	3.5	14.0	23.0	28.5
18	²	12.8	22.7	27.6	35.9
19	²	19.4	28.9	45.7	51.8
20a	²	6.0	13.8	24.5	34.7
20b	²	2.0	11.2	22.1	35.2
21	²	19.1	22.2	40.4	43.3
22	²	2.0	7.3	16.4	37.6

TABLE 40

PER CENT OF PUPILS WHO ANSWERED EACH QUESTION CORRECTLY
Thought B

	Grade 4 No. = 457	Grade 5 No. = 401	Grade 6 No. = 419	Grade 7 No. = 360	Grade 8 No. = 402
1	68.8	80.8	93.5	96.3	98.3
2a	44.4	83.7	84.9	90.2	94.5
2b	37.0	69.5	73.1	78.8	80.5
3a	6.3	7.9	26.4	46.1	65.6
3b	5.2	18.3	43.1	63.8	83.6
3c	2.2	8.0	40.0	61.1	80.3
4	13.4	41.7	59.5	68.0	68.4
5	4.4	19.4	62.5	60.5	76.1
6	1.3	6.4	71.8	73.0	77.3
7a	2.2	11.2	30.7	51.8	79.1
7b	6.6	31.5	63.3	75.6	83.8
8	1.3	21.9	46.7	50.8	64.1
9	3.8	18.1	51.6	62.9	72.6
10	5.0	19.4	36.5	38.3	47.7
11	1.3	4.2	8.3	27.5	36.0
12a	3.3	12.8	35.4	46.2	66.2
12b	0.1	6.4	20.6	38.2	57.7
13a	2.2	28.1	50.1	63.4	78.6
13b	1.3	13.9	25.7	38.0	55.2
14a	¹	0.5	1.9	5.2	13.9
14b	1.7	9.2	27.9	43.6	73.3
15	3.8	16.7	34.5	55.4	69.3
16	²	2.7	13.6	14.7	33.5
17	²	2.9	15.9	39.2	55.3
18	²	2.4	11.9	13.8	28.0
19	²	1.5	6.2	13.5	37.8
20a	²	11.4	41.6	45.5	62.5
20b	²	1.5	5.0	4.1	13.1
21	²	1.4	4.1	8.3	18.9
22	²	0.6	2.5	4.6	7.6

TABLE 41

PER CENT OF PUPILS WHO ANSWERED EACH QUESTION CORRECTLY
Character A

	Grade 4 No. = 400	Grade 5 No. = 331	Grade 6 No. = 472	Grade 7 No. = 358	Grade 8 No. = 427
1	33.8	54.2	65.6	76.2	75.3
2	32.0	50.7	67.9	75.5	83.0
3	34.0	45.2	54.6	62.9	64.2
4	10.2	18.5	38.7	50.9	64.0
5	28.4	56.2	78.1	87.9	70.6
6a	15.5	25.6	44.5	54.8	67.9
6b	18.0	26.1	48.4	63.5	72.7
7a	8.5	24.9	45.4	62.2	73.3
7b	10.8	22.2	35.5	45.5	56.9
8	12.9	23.9	43.5	58.3	67.1
9	19.6	38.1	63.0	68.5	81.1
10	16.5	26.0	33.5	45.6	58.4
11	3.2	8.5	20.4	36.7	50.0
12	2	8.1	19.5	34.0	51.2
13a	2	9.7	27.2	43.2	56.6
13b	2	6.3	15.0	26.3	40.9
14	2	3.3	14.5	25.0	43.8
15a	2	7.8	19.0	29.7	34.8
15b	2	6.0	14.6	23.3	38.0

TABLE 42

PER CENT OF PUPILS WHO ANSWERED EACH QUESTION CORRECTLY
Character B

	Grade 4 No. = 397	Grade 5 No. = 332	Grade 6 No. = 473	Grade 7 No. = 358	Grade 8 No. = 426
1	34.0	59.7	78.2	86.3	91.6
2a	10.5	20.8	39.3	57.9	68.7
2b	20.9	32.9	57.7	73.4	77.8
3	29.8	36.5	48.9	54.2	60.7
4	8.9	22.4	39.6	54.1	62.8
5a	14.6	29.4	41.9	59.5	67.6
5b	15.3	37.6	55.9	70.4	78.8
6	36.4	62.9	71.9	81.5	87.4
7	5.3	11.0	24.1	38.1	54.8
8a	13.0	26.5	29.7	42.7	52.1
8b	3.0	6.5	16.7	35.0	46.8
8c	10.9	17.0	20.7	31.4	45.1
9	2	27.4	41.7	52.7	64.9
10	2	16.1	33.5	52.7	64.0
11	2	3.7	9.0	17.0	23.0
12	2	17.4	22.1	36.9	39.7
13a	2	9.5	13.5	29.7	30.4
13b	2	7.4	9.7	14.7	16.2
14	2	1.9	3.7	6.7	13.2

By making use of a reasonable assumption we now turn these measures of difficulty of Tables 37 to 43 in terms of the per cent of successes into measures in terms of deviation up or down from the median difficulty for the grade in question, the assumption being that the form of distribution of ability within any one

TABLE 43
PER CENT OF PUPILS WHO ANSWERED EACH QUESTION CORRECTLY
Character L

	Grade 4 No. = 399	Grade 5 No. = 331	Grade 6 No. = 465	Grade 7 No. = 354	Grade 8 No. = 423
1	26.8	42.5	63.8	72.5	76.9
2	39.7	50.3	67.0	71.4	74.3
3a	13.8	20.8	30.9	41.2	50.2
3b	10.1	23.3	37.2	44.2	56.5
4	15.5	19.2	29.3	38.4	47.2
5	13.1	16.0	33.7	42.0	52.9
6	16.2	22.7	36.0	50.5	58.3
7a	2	21.6	38.5	48.9	67.0
7b	2	6.5	14.7	20.9	34.2
8a	2	14.4	29.2	38.3	57.1
8b	2	7.7	13.9	19.6	35.8
9a	2	9.6	18.7	28.7	42.1
9b	2	10.6	18.4	23.3	31.0
10	2	13.4	24.2	29.5	40.0

grade is symmetrical and approximately that of the normal probability surface. The method is the familiar one used by Dr. Buckingham. The result is a series of tables of which the one for the Information Scale A is given here as a sample. This table (44) should be read as follows: In Grade 4 question 1 of Information Scale A is 1.622 P.E. below the fourth grade median, in Grade 5 it is 2.958 P.E. below the fifth grade median, in Grade 6 it is 2.667 P.E. below the sixth grade median, in Grade 7 it is 3.219 P.E. below the seventh grade median, in Grade 8 it is 3.182 below the eighth grade median.

We may now refer all the tasks of one test to one point and place them in relation one to another in the same scale by making one further assumption: namely, that the grades (4, 5, 6, 7, and 8) are approximately equal in variability in respect to the ability in question. This assumption is almost certainly somewhat in error; but it is perhaps more nearly true than any other single relation that would be suggested. It, therefore, may serve for a first approximation. It has the additional merit that it is the assumption which has been used for similar scales in other subjects. The median difficulty for fourth grade pupils is the arbitrary point of reference used here.

In Tables 47 to 53 are given the distances in terms of P.E. of each question or problem above the fourth grade median difficulty, first when the data of each grade in which it was given are used separately, and, finally, when all data available are combined into a single estimate. These tables should be read

TABLE 44
P.E. VALUES OF EACH QUESTION
Information A

	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
1	-1.622	-2.958	-2.667	-3.219	-3.182
2	-1.374	-1.962	-2.746	-2.767	-3.111
3	-1.110	-2.026	-1.962	-1.988	-2.234
4	+0.145	-0.380	-1.569	-1.692	-2.597
5	-0.004	-1.155	-1.291	-1.140	-0.795
6	+1.549	+0.575	-0.315	-1.403	-2.093
7	+0.702	-1.351	-1.313	-1.656	-1.935
8	+1.803	+0.422	-0.945	-0.913	-0.851
9	+1.302	+0.097	-0.307	-0.665	-0.900
10	+1.979	+0.769	+0.330	-0.104	-0.640
11	+3.077	+0.819	-0.100	+0.145	-0.624
12	+1.438	0.000	+0.484	+0.235	-0.242
13	+3.450	+2.035	-0.719	+0.418	-0.632
14	+3.111	+0.449	+0.588	+0.407	+0.026
15	+3.571	+1.851	+0.786	+0.756	+0.246
16	+1.391	+0.660	-0.243	-0.773	-1.518
17	+3.938	-0.074	+0.559	+0.527	-0.168
18	¹	+3.111	+2.562	+1.033	+0.357
19	+2.257	+1.346	+1.227	+1.009	+0.555
20	+3.938	+3.182	+2.686	+2.397	+1.962
21	¹	+3.820	+1.962	+1.409	+0.719
22	¹	+3.938	+1.324	+1.780	+1.086
23	+4.275	+3.643	+2.305	+2.331	+1.346
24	¹	¹	¹	¹	+2.546
25	¹	+3.643	+1.499	+1.811.	+1.125
26	+4.275	+3.300	+2.134	+2.114	+1.380
27	²	²	+3.938	+3.346	+2.245
28	²	²	+1.677	+1.101	+0.213
29	²	²	+2.706	+2.439	+2.044
30	²	²	+2.188	+2.344	+1.499
33	²	²	+3.938	+4.275	+2.834
34	²	²	²	²	+3.643

¹ Indicates that no pupils in the grade answered the question correctly.

² Indicates that the question was not tried by the grade.

as follows: Table 47—on the basis of the results obtained in Grade 4, question 1 of Information Scale A lies 1.622 P.E. below the fourth grade median; on the basis of the results obtained in Grade 5, it lies .674 P.E. below the fourth grade median; on the basis of the results obtained in Grade 6, it lies 1.024 P.E. above the fourth grade median; on the basis of the results obtained in Grade 7, it lies .968 P.E. above the fourth grade median; on the basis of the results obtained in Grade 8, it lies 2.110 P.E. above the fourth grade median; on the basis of these five determinations, question 1 is given a value of -0.400 P.E.; that is, it lies .400 P.E. below the fourth grade median.

The last two figures in these tables (47 to 53) are not significant. They are included in order to make the weighted averages more

TABLE 45

DISTANCES OF EACH GRADE MEDIAN ABOVE EACH LOWER GRADE MEDIAN
AND ABOVE THE FOURTH GRADE MEDIAN IN TERMS OF P.E.

	Information Scales A and B		Thought Scales A and B	
	Distance Above Next Lower Grade Median	Distance Above Fourth Grade Median	Distance Above Next Lower Grade Median	Distance Above Fourth Grade Median
Grade 5	2.284	2.284	1.923	1.923
Grade 6	1.407	3.691	1.836	3.759
Grade 7	0.494	4.185	0.946	4.705
Grade 8	1.107	5.292	1.139	5.844

	Character Scales A and B		Character Scale L	
	Distance Above Next Lower Grade Median	Distance Above Fourth Grade Median	Distance Above Next Lower Grade Median	Distance Above Fourth Grade Median
Grade 5	1.545	1.545	1.185	1.185
Grade 6	1.174	2.719	1.099	2.284
Grade 7	0.962	3.681	0.592	2.876
Grade 8	0.681	4.362	0.765	3.641

precise, and especially in order to facilitate any work that may be done in extending these scales.

Tables 47 to 53 are constructed by adding to the P.E. distance of each question or problem above or below its own grade median the distance its own grade median is above the fourth grade median. In Grade 5, in Table 44, question 1 lies 2.958 P.E. below its own grade median. The median of Grade 5 is 2.284 P.E. above the median of Grade 4. Hence adding to -2.958 P.E. the $+2.284$ P.E. we obtain -0.674 P.E., the location of question 1 with reference to the fourth grade median as given under Grade 5 in Table 47. In Grade 6, in Table 44, question 1 lies 2.667 P.E. below its own grade median. The median of Grade 6 is 3.691 P.E. above the median of Grade 4. Hence adding to -2.667 P.E. the $+3.691$ we obtain $+1.024$ P.E., the location of question 1 with reference to the fourth grade median as given under Grade 6 in Table 47.

In Table 45 are given the P.E. distances of each grade median above the fourth grade median. These are derived or taken directly from Tables 33 to 36.

To determine the P.E. values assigned to each question in the last columns of Tables 47 to 53 a weighted average of the five determinations is taken. Inasmuch as the few dull pupils who have been promoted into the upper grades unduly increase the P.E. distances of the easy questions above the fourth grade median, the following system of weighting has been adopted. The determinations by the grade distribution whose median is not

TABLE 47

THE POSITION OF EACH QUESTION IN EACH GRADE AND ITS AVERAGE POSITION WHEN IT IS REFERRED TO THE FOURTH GRADE MEDIAN AS A POINT OF REFERENCE

	Information A					Weighted Average
	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	
1	-1.622	-0.674	+1.024	+0.968	+2.110	-0.400
2	-1.374	+0.322	+0.945	+1.418	+2.181	+0.155
3	-1.110	+0.258	+1.729	+2.197	+3.058	+1.396
4	+0.145	+1.904	+2.122	+2.493	+2.695	+1.607
5	-0.004	+1.129	+1.800	+3.045	+4.497	+2.125
6	+1.549	+2.859	+3.376	+2.782	+3.199	+2.798
7	+0.702	+0.933	+2.378	+2.529	+3.357	+1.829
8	+1.803	+2.706	+2.746	+3.272	+4.441	+3.314
9	+1.302	+2.381	+3.384	+3.520	+4.392	+3.143
10	+1.979	+3.053	+4.021	+4.081	+4.652	+3.694
11	+3.077	+4.103	+3.591	+4.330	+4.668	+4.150
12	+1.438	+2.284	+4.175	+4.420	+5.050	+3.650
13	+3.450	+4.319	+2.973	+4.603	+4.660	+4.081
14	+3.111	+2.731	+4.279	+4.592	+5.318	+4.202
15	+3.571	+4.135	+4.477	+4.941	+5.538	+4.809
16	+1.391	+2.944	+3.448	+4.958	+3.774	+3.440
17	+3.938	+2.210	+4.250	+4.712	+5.124	+4.070
18	¹	+5.395	+6.253	+5.218	+5.649	+5.597
19	+2.257	+3.630	+4.918	+5.194	+5.847	+4.764
20	+3.938	+5.466	+6.377	+6.582	+7.254	+6.557
21	¹	+6.104	+5.653	+5.594	+6.011	+5.812
22	¹	+6.222	+5.015	+5.965	+6.378	+5.703
23	+4.275	+5.927	+5.996	+6.516	+6.638	+6.254
24	¹	¹	¹	¹	+7.838	+7.838
25	¹	+5.927	+5.190	+5.996	+6.417	+5.870
26	+4.275	+5.584	+5.825	+6.299	+6.672	+6.161
27	²	²	+7.629	+7.531	+7.537	+7.554
28	²	²	+5.368	+5.286	+5.505	+5.407
29	²	²	+6.397	+6.625	+7.336	+6.785
30	²	²	+5.879	+6.529	+6.791	+6.497
33	²	²	+7.629	+8.460	+8.126	+8.093
34	²	²	¹	¹	+9.935	+9.935

¹ Indicates that no pupils in the grade answered the question correctly.

² Indicates that the question was not tried by the grade.

more than 1 P.E. from the location of the questions as given in Table 44 are assigned a value of 10; the determinations by the grade distribution whose median is more than 1 P.E. and less than 2 P.E. from the location of the questions are assigned a value of 6; the determinations by the grade distribution whose median is more than 2 P.E. and less than 3 P.E. from the location of the questions are assigned a value of 3; while the determinations by the grade distribution whose median is more than 3 P.E. from the location of the questions are assigned a value of 1. This system of weighting gives the greater values to the locations of questions which are nearer the medians of the grade distributions and at the same time gives to the locations of the

TABLE 48

THE POSITION OF EACH QUESTION IN EACH GRADE AND ITS AVERAGE POSITION WHEN IT IS REFERRED TO THE FOURTH GRADE MEDIAN AS A POINT OF REFERENCE

Information B						Weighted Average
	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	
1	-2.370	-1.799	-0.034	+0.735	+1.209	-0.999
2	-1.926	+0.417	+0.676	+1.039	+2.181	-0.345
3	+0.464	+1.015	+2.918	+2.723	+3.749	+2.072
4	-0.156	+1.912	+2.541	+2.500	+1.354	+1.489
5	+0.689	+1.904	+2.259	+2.963	+3.313	+2.030
6	+1.033	+2.295	+2.305	+3.338	+3.550	+2.569
7	+0.547	+1.784	+3.246	+3.705	+4.485	+2.753
8	+0.807	+3.197	+2.667	+3.681	+3.848	+2.760
10	+3.346	+1.366	+3.202	+3.123	+4.142	+2.806
11	+2.746	+3.215	+2.122	+2.583	+2.881	+2.759
12	+3.346	+2.940	+4.503	+4.237	+5.124	+4.253
13	+3.111	+4.087	+4.343	+4.148	+4.301	+4.204
14	+4.275	+3.341	+4.729	+4.595	+5.031	+4.513
15	+1.196	+2.721	+3.388	+3.373	+3.860	+2.979
16	+2.357	+3.597	+4.315	+4.304	+5.034	+4.235
17	+3.111	+4.119	+4.631	+5.185	+5.764	+4.962
18	¹	+6.222	+4.343	+4.237	+5.374	+4.702
19	+2.631	+4.541	+5.106	+4.712	+5.733	+4.863
20	¹	¹	+5.948	+5.381	+5.505	+5.535
21	¹	+4.111	+5.635	+5.647	+6.036	+5.746
22	+2.597	+3.475	+4.654	+5.045	+6.023	+4.765
23	¹	¹	+6.339	+7.200	+8.126	+7.227
24	+4.083	+5.790	+5.948	+5.870	+6.427	+5.970
25	+3.725	+4.095	+4.673	+4.788	+5.273	+4.746
26	+4.600	+6.222	+5.135	+6.362	+6.393	+5.828
27	²	²	+5.972	+5.728	+5.784	+5.796
28	²	²	+5.411	+5.350	+5.377	+5.542
29	²	²	+5.228	+5.950	+6.297	+5.944
30	²	²	+7.086	+7.531	+6.948	+7.034
33	²	²	¹	+8.460	+8.742	+8.601
34	²	²	+6.480	+6.931	+7.375	+6.928

questions that are farthest from the medians of the grade distributions some value.

Table 46 shows in detail the method of determining the weighted average for questions 1 and 4 of Table 47.

TABLE 46

METHOD OF DETERMINING THE WEIGHTED-AVERAGE VALUES OF THE TASKS

	Question 1		Question 4	
Grade 4.....	6 x	-1.622= -9.732	10 x	+0.145= + 1.450
Grade 5.....	3 x	-0.674= -2.022	10 x	+1.904= +19.040
Grade 6.....	3 x	+1.024= +3.072	6 x	+2.122= +12.732
Grade 7.....	1 x	+0.968= +0.968	6 x	+2.493= +14.958
Grade 8.....	1 x	+2.110= +2.110	3 x	+2.695= + 8.085
Weighted Average....		-0.400		+ 1.607

Figs. 17 to 23 give the facts of the last columns of Tables 47 to 53 represented on a linear projection. These figures show the location in terms of P.E. of each question or problem with refer-

TABLE 49

THE POSITION OF EACH QUESTION IN EACH GRADE AND ITS AVERAGE POSITION WHEN IT IS REFERRED TO THE FOURTH GRADE MEDIAN AS A POINT OF REFERENCE

	Thought A					Weighted Average
	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	
1	-0.190	+1.028	+2.814	+3.540	+4.116	+1.963
2	-0.484	+1.047	+2.463	+2.977	+3.780	+1.417
3	+0.689	+1.589	+3.200	+3.932	+4.591	+2.644
4	+0.940	+2.110	+3.471	+4.049	+4.971	+3.108
5a	+2.881	+3.287	+4.085	+4.537	+4.958	+4.209
5b	+2.514	+3.145	+3.356	+3.535	+4.382	+3.466
5c	+2.269	+2.658	+3.078	+3.199	+3.809	+2.962
6	1	+3.539	+3.659	+4.638	+5.159	+4.327
7	+1.602	+2.905	+4.096	+4.556	+5.434	+3.902
8	+3.820	+3.314	+4.058	+4.880	+5.364	+4.506
10a	1	+5.373	+6.664	+6.850	+7.119	+6.740
10b	+2.834	+3.411	+3.987	+4.593	+4.881	+3.932
10c	+4.275	+4.241	+4.860	+4.213	+5.348	+4.725
11a	+2.986	+3.332	+3.674	+4.142	+4.844	+3.988
11b	+4.083	+4.228	+4.541	+5.016	+5.703	+4.981
12	+1.749	+2.914	+3.919	+4.428	+4.825	+3.548
13	+2.834	+2.947	+4.096	+4.772	+5.325	+4.310
14	+3.077	+3.987	+3.543	+4.511	+5.522	+4.435
15a	+3.111	+4.204	+5.429	+5.050	+5.874	+5.251
15b	1	+5.142	+6.774	+5.636	+7.119	+6.166
16a	2	+2.792	+4.077	+4.475	+5.196	+4.135
16b	2	+4.111	+4.991	+5.027	+5.948	+5.242
17	2	+4.609	+5.361	+5.801	+6.686	+5.906
18	2	+3.608	+4.869	+5.587	+6.379	+5.328
19	2	+3.202	+4.584	+4.865	+5.777	+4.790
20a	2	+4.228	+5.375	+5.729	+6.427	+5.743
20b	2	+4.967	+5.562	+5.845	+6.407	+5.977
21	2	+3.219	+4.894	+5.065	+6.094	+5.008
22	2	+4.967	+5.914	+6.155	+6.312	+6.137

ence to the fourth grade median, which has been taken as an arbitrary point of reference. In Fig. 17, for instance, the distance that question 6 is above this arbitrary point of reference may be spoken of as being twice as far above the arbitrary point of reference as question 3, but question 6 cannot be called twice as difficult as question 3. Only the determination of the absolute zero point of history ability with respect to information would enable one to speak in such terms as one class possesses twice as much ability along information lines in history as another class.

An approximation to such an absolute zero could be obtained by extending the scales at their lower extremes down to questions or tasks so easy that experts would regard them as of almost zero difficulty. The method used in this study applied to such questions in the case of American children in Grades 4, 3, 2, and 1 would then supply the measures of the distances, in terms of the

TABLE 50

THE POSITION OF EACH QUESTION IN EACH GRADE AND ITS AVERAGE POSITION WHEN IT IS REFERRED TO THE FOURTH GRADE MEDIAN AS A POINT OF REFERENCE

	Thought B					Weighted Average
	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	
1	-0.727	+0.632	+1.514	+2.057	+2.680	+0.421
2a	+0.209	+0.467	+2.246	+2.787	+3.474	+1.468
2b	+0.492	+1.167	+2.846	+3.519	+4.569	+2.228
3a	+2.269	+4.016	+4.695	+4.850	+5.248	+4.632
3b	+2.411	+3.977	+4.017	+4.182	+4.394	+3.984
3c	+2.986	+4.006	+4.135	+4.287	+4.580	+4.146
4	+1.643	+2.234	+3.402	+4.012	+5.134	+3.427
5	+2.530	+3.202	+3.287	+4.310	+4.792	+3.757
6	+3.300	+4.180	+2.904	+3.796	+4.734	+3.708
7a	+2.986	+3.726	+4.507	+4.638	+4.643	+4.303
7b	+2.234	+2.637	+3.255	+3.677	+4.382	+3.256
8	+3.300	+3.073	+3.882	+4.675	+5.309	+4.335
9	+2.631	+3.274	+3.700	+4.216	+4.953	+4.005
10	+2.439	+3.202	+4.271	+5.146	+5.929	+4.615
11	+3.300	+4.485	+5.813	+5.591	+5.313	+5.304
12a	+2.726	+3.608	+4.314	+4.846	+5.224	+4.453
12b	+4.600	+4.180	+4.976	+5.150	+5.556	+5.135
13a	+2.986	+2.783	+3.755	+4.197	+4.668	+3.700
13b	+3.300	+3.532	+4.727	+5.158	+5.650	+4.860
14a	1	+5.743	+6.836	+7.116	+7.453	+7.149
14b	+3.146	+3.984	+4.628	+4.944	+4.922	+4.633
15	+2.631	+3.355	+4.351	+4.504	+5.096	+4.295
16	2	+4.780	+5.388	+6.261	+6.476	+5.959
17	2	+4.734	+5.240	+5.112	+5.646	+5.283
18	2	+4.855	+5.508	+6.321	+6.708	+6.104
19	2	+5.142	+6.040	+6.341	+6.305	+6.217
20a	2	+3.711	+4.064	+4.873	+5.372	+4.593
20b	2	+5.142	+6.198	+7.284	+7.507	+6.971
21	2	+5.181	+6.338	+6.759	+7.151	+6.721
22	2	+5.648	+6.664	+7.203	+7.968	+7.715

variability of a grade, of the zero-difficulty questions from the fourth grade median. Such questions might be: For the Information Scales—"In what country do you live?" "Is the United States the name of a nation or of an animal"? "Was George Washington an American or a Chinaman"? For the Thought Scales they might be—"The Indians built wigwams. Then they lived in the wigwams. Did they live in the wigwams before they built them?" "The Indians used skins in making their wigwams. They got the skins from animals. Did they have to kill the animals before they built their wigwams?" "A man built a house. Then he lived in it. Did he live in it before he built it?" For the Character Scales they might be—"A girl ate a peach. Then she said she did not eat it. She spent ten cents for candy. Then she said she did not spend it. She bit her sister. Then she said she did not bite her. Was the girl a liar?"

TABLE 51

THE POSITION OF EACH QUESTION IN EACH GRADE AND ITS AVERAGE POSITION WHEN IT IS REFERRED TO THE FOURTH GRADE MEDIAN AS A POINT OF REFERENCE

	Character A					Weighted Average
	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	
1	+0.620	+1.389	+2.123	+2.624	+3.348	+1.836
2	+0.693	+1.519	+2.030	+2.657	+2.947	+1.810
3	+0.612	+1.724	+2.547	+3.192	+3.823	+2.379
4	+1.884	+2.874	+3.145	+3.648	+3.831	+3.209
5	+0.847	+1.314	+1.569	+1.946	+4.559	+2.102
6a	+1.506	+2.517	+2.924	+3.502	+3.673	+2.939
6b	+1.357	+2.494	+2.778	+3.169	+3.467	+2.765
7a	+2.035	+2.550	+2.891	+3.220	+3.440	+2.997
7b	+1.835	+2.680	+3.270	+3.849	+4.104	+3.317
8	+1.677	+2.597	+2.962	+3.370	+3.706	+3.000
9	+1.269	+2.994	+3.211	+2.967	+3.055	+2.801
10	+1.444	+2.499	+3.351	+3.845	+4.047	+3.175
11	+2.746	+3.580	+3.946	+4.185	+4.362	+4.003
12	2	+3.619	+3.994	+4.293	+4.318	+4.170
13a	2	+3.471	+3.619	+3.935	+4.116	+3.820
13b	2	+3.814	+4.256	+4.621	+4.703	+4.490
14	2	+4.271	+4.288	+4.681	+4.593	+4.526
15a	2	+3.648	+4.021	+4.471	+4.941	+4.454
15b	2	+3.850	+4.282	+4.762	+4.815	+4.558

It would be necessary in the experiment, of course, to separate ignorance of facts from ignorance of language, and also inability to infer from inability to understand words. Possibly tests with pictures could be used to better advantage.

In default of such an experimental placing of the absolute zero for these three types of scales, which the author hopes to undertake later, the results of such *a priori* placings as may be made can be shown by a sample. Suppose, for instance, that the absolute zero for each scale be located provisionally at a point representing the probable ability of the lowest pupil in Grade 2 (-4.5 P.E. from the median of Grade 2). Assume also that the median for Grade 2 is as far below the median of Grade 4 as the median of Grade 4 is below that of Grade 6. This, of course, is purely a provisional arrangement, and would be used only when it is absolutely necessary to make some assumption about the absolute zero.

On the basis of these assumptions the values of Tables 47 and 48 would, when referred to the provisional absolute zero, be increased each by $2.284+1.407+4.5$, or 8.191 ; and the hardest questions of the Information Scales would be counted as about $2\frac{1}{2}$ times as "hard" as the easiest. The values of Tables 49 and 50 would be increased each by $1.923+1.836+4.5$, or 8.259 ; and

TABLE 52

THE POSITION OF EACH QUESTION IN EACH GRADE AND ITS AVERAGE POSITION WHEN IT IS REFERRED TO THE FOURTH GRADE MEDIAN AS A POINT OF REFERENCE

	Character B					Weighted Average
	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	
1	+0.612	+1.181	+1.564	+2.059	+2.318	+1.332
2a	+1.859	+2.751	+3.122	+3.385	+3.639	+3.074
2b	+1.201	+2.201	+2.431	+2.754	+3.227	+2.391
3	+0.786	+2.057	+2.760	+3.525	+3.959	+2.617
4	+1.997	+2.670	+3.110	+3.528	+3.878	+3.170
5a	+1.563	+2.348	+3.022	+3.324	+3.685	+2.894
5b	+1.518	+2.013	+2.499	+2.886	+3.176	+2.432
6	+0.516	+1.056	+1.859	+2.352	+2.663	+1.533
7	+2.397	+3.364	+3.761	+4.130	+4.183	+3.802
8a	+1.670	+2.476	+3.509	+3.954	+4.284	+3.309
8b	+2.789	+3.790	+4.151	+4.252	+4.481	+4.124
8c	+1.827	+2.960	+3.930	+4.400	+4.545	+3.730
9	2	+2.436	+3.030	+3.581	+3.795	+3.210
10	2	+3.014	+3.451	+3.581	+3.831	+3.519
11	2	+4.193	+4.707	+5.096	+5.458	+4.958
12	2	+2.936	+3.859	+4.177	+4.749	+4.063
13a	2	+3.489	+4.355	+4.471	+5.123	+4.468
13b	2	+3.690	+4.645	+5.237	+5.824	+5.014
14	2	+4.622	+5.367	+5.903	+6.018	+5.733

TABLE 53

THE POSITION OF EACH QUESTION IN EACH GRADE AND ITS AVERAGE POSITION WHEN IT IS REFERRED TO THE FOURTH GRADE MEDIAN AS A POINT OF REFERENCE

	Character L					Weighted Average
	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	
1	+0.913	+1.465	+1.761	+1.990	+2.550	+1.665
2	+0.387	+1.174	+1.632	+2.038	+2.673	+1.580
3a	+1.616	+2.391	+3.024	+3.206	+3.634	+2.921
3b	+1.892	+2.266	+2.768	+3.092	+3.398	+2.798
4	+1.506	+2.476	+3.091	+3.313	+3.745	+2.985
5	+1.663	+2.660	+2.908	+3.175	+3.533	+2.907
6	+1.462	+2.295	+2.815	+2.857	+3.330	+2.680
7a	2	+2.350	+2.718	+2.917	+2.989	+2.787
7b	2	+3.430	+3.840	+4.077	+4.244	+4.009
8a	2	+2.761	+3.096	+3.317	+3.376	+3.179
8b	2	+3.299	+3.893	+4.145	+4.180	+3.997
9a	2	+3.120	+3.602	+3.710	+3.937	+3.650
9b	2	+3.036	+3.619	+3.957	+4.376	+3.765
10	2	+2.828	+3.322	+3.675	+4.017	+3.556

the hardest question of the Thought Scales would be about $1\frac{7}{8}$ times as "hard" as the easiest. Each of the values of Tables 51 and 52 would be raised by $1.545+1.174+4.5$, or 7.219; and the hardest question of Character Scales A and B would be about $1\frac{1}{2}$ times as "hard" as the easiest.

Any investigator who needs to assume some absolute zero may conveniently define his assumption in the way just illustrated.

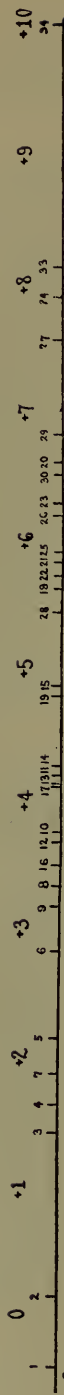


Fig. 17. Information Scale A

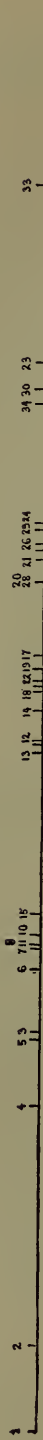


Fig. 18. Information Scale B

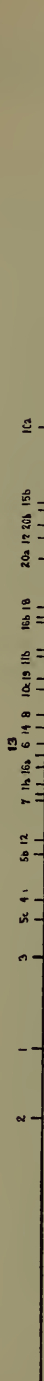


Fig. 19. Thought Scale A

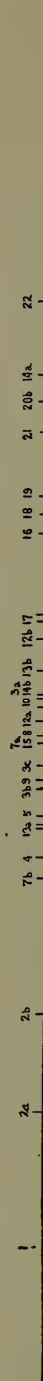


Fig. 20. Thought Scale B



Fig. 21. Character Scale A



Fig. 22. Character Scale B

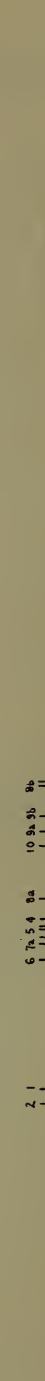


Fig. 23. Character Scale L

FIGS. 17-23. LINEAR PROJECTION OF THE AVERAGE POSITIONS OF EACH QUESTION

SECTION VII

KEYS TO THE HISTORY SCALES

ANSWERS TO QUESTIONS OF INFORMATION SCALE A

QUESTION	CREDIT
1	3=Indians (Indies in Grades 4 and 5); redskins, copper colored people. 0=Savages, natives.
2	3=Washington, Grant, Lee, Schuyler, Sherman, Jackson, Warren, Greene. 0=Wolfe, Burgoyne, Admiral Dewey.
3	3=Wigwam, teepee, long house, tent. 0=Caves, huts, tents and 'mounds, forests, camps, tents and canoes, in wigwams and log cabins, long houses and trees.
4	3=Lincoln.
5	3=Pilgrims, Plymouth, people of Plymouth, early settlers at Plymouth. 0=English, Americans, Indians, Puritans, Quakers, Christians.
6	3=With Spain, Spain, Spanish; Spanish American War.
7	3=Cabot, Vespuccius, Sir Walter Raleigh, Drake, Champlain, De Soto, LaSalle, Balboa, Lief Ericson, Eric the Red, Henry Hudson, Pizarro, Coronado, Ponce de Leon, Marquette. 0=Americus or Amerigo, Magellan, Baltimore, Marco Polo, America.
8	3=Declaration of Independence. 0=Signing of Declaration of Independence; Day of Independence, Declaration Day, Independence.
9	3=Fighting and hunting; hunting and war; hunting, fishing and fighting; hunting and fishing; fishing and shooting; fish and shoot animals; fishing and trapping. 0=Fighting and fishing.
10	3=3-5-1-2-4. 1=One interchange. (See note below, answer to question 25.)
11	3=(a) Civil War. (b) Revolutionary War, or War of 1776; with England and colonies; or War for Independence. (c) War of 1812. 1=Any two of the three.
12	3=Passage to the Pacific, Pacific ocean, water route across North America, northwest passage, strait, route to the west, a short or new way or route to India or Asia or China; short route, new route; northwest passage to India, passage to India; shortest passage to India; northern passage to India. 0=East Indies or India; trading post, fur trade, new land, route to West Indies, southern route to India.
13	3=Jefferson.
14	3=(a) Spain or Spanish. (b) England, Great Britain or English. (c) France or French. (d) Holland, Netherlands or Dutch. 0=Inclusion of Portugal, Germany, Italy, or Russia as one of the four.

- 15 3 = (a) Burgoyne.
(b) Cornwallis.
- 16 3 = Civil War, or War of 1862, or War between the North and the South.
0 = Monitor and Merrimac.
- 17 3 = Iroquois; Five Nations or Six Nations.
0 = Algonquins, Powhatan, Iroquois and Sioux.
- 18 3 = (a) Telegraph.
(b) Telephone.
(c) Wireless.
1 = Any two of the three, or three correct with inclusion of something not strictly applicable.
- 19 3 = Working on farms, farming.
- 20 3 = (a) Stagecoach, stage, coach, wagon, or carriage.
(b) Horseback, horse.
(c) Sailboat, sailing.
0 = Boat, ship or water in place of sailboat or sailing; Flatboat, barges, rowboat, ferry or canoe in place of sailboat or sailing; Canal boats pulled by horses or mules, steamboat, bicycle, caravans, prairie schooners.
- 21 3 = (a) Cumberland road, National road, public road, highways, roads to the west.
(b) Erie Canal.
(c) Panama Canal.
1 = Any two of the three correct; two correct and subway.
0 = Inclusion of something not applicable as steam engine or wireless.
- 22 3 = Cotton gin and steamboat.
0 = Eli Whitney and Robert Fulton.
- 23 3 = How to keep the Southern states in the Union, to hold the Union together, preserve the Union, keeping of the Union, holding of the Union; what to do about the secession of the Southern states; secession, breaking up of the Union, disunion or not, break between North and South; whether the states were free to secede, should the states be let leave the Union, whether the states had a right to leave the Union or not, states rights, how to treat the seceded states, what to do with the South.
0 = War, Civil War, war with Confederates, fight over slavery, putting down the Confederates, fight, to see after the Civil War, whether he should declare war or not, war or peace; slavery, slavery question, whether there should be slavery or not, war or peace; how to set the slaves free, how to save the Union and abolish slavery, he had to free the slaves, put the Union together, question of slavery, slavery problem and preserving the Union, for freedom, to stop slavery, whether to admit the Southern states to the Union or not, to fight for the Civil War.
- 24 3 = (a) Civil Service Commission.
(b) Interstate Commerce Commission.
1 = Civil Service Commission or Interstate Commerce Commission with the other omitted.
- 25 3 = 6-2-5-3-7-1-4.
2 = One interchange, or two interchanges or one two-place displacement.
1 = One three or more place displacement or one two-place displacement and one interchange; or one double interchange as 3-2-1-4-5-6-7, or three interchanges.

NOTE.—The answer to this type of question may be easily and quickly scored as follows: Assume that a pupil's order is

5-2-4-3-7-1-6. By placing it below the correct order thus

6-2-5-3-7-1-4

5-2-4-3-7-1-6

1 in the pupil's order corresponds to 1 in the correct order, 2 corresponds to 2 in the correct order, 3 corresponds to 3 in the correct order, 4 corresponds to 5 in the correct order, 5 corresponds to 6 in the correct order, 6 corresponds to 4 in the correct order and 7 corresponds to 7 in the correct order.

By writing down in a new order the numbers of the correct order to which the numbers of the pupil's order correspond when the latter are taken in the order 1-2-3-4-5-6-7 we have 1-2-3-5-6-4-7. This is an illustration of what is meant by a two-place displacement, the 4 being two places out of order. This order would be the pupil's actual arrangement of the events if the events themselves were arranged in the order in which they occurred instead of being arranged by chance.

1-3-2-4-5-6-7 is an illustration of what is meant by one interchange, 1-3-2-5-4-7-6 is an illustration of what is meant by three interchanges, 1-4-3-2-5-6-7 is an illustration of what is meant by a double interchange.

- 26 3=7-6-1-5-4-3-2.
2=One interchange, or two interchanges or one two-place displacement.
1=One three or more place displacement or one two-place displacement and one interchange; or one double interchange as 3-2-1-4-5-6-7, or three interchanges.
- 27 3=12 correct.
2=10 or 11 correct.
1=8 or 9 correct.
a=Morse. *b*=Bell. *c*=Cyrus Field.
d=Jefferson Davis. *e*=Thomas Jefferson. *f*=Hamilton.
g=Robert Morris. *h*=Perry. *i*=Henry Clay.
j=John Jay. *k*=Edwin M. Stanton. *l*=Roger B. Tany
- 28 3=7 correct.
2=6 correct.
1=5 correct.
Morgan.
Farragut.
Dewey.
Taylor.
Thomas.
Grant.
Perry.
- 29 3=2-5-1-7-6-4-3.
2=One interchange or two interchanges or one two-place displacement.
1=One three or more place displacement; one two-place displacement and one interchange, or one double interchange as 3-2-1-4-5-6-7, or three interchanges.
- 30 3=(*a*) Protection of slavery in the territories.
(*b*) The "gag rule" or suppression of abolition petitions in Congress.
(*c*) Annexation of Texas.
1=The above three and one other one checked or any two of the above three and no others checked.
- 33 3=Colonization and interference with South American republics. Establishing monarchies and recapture of Spain's colonies. Shouldn't settle in America—keep hands off all colonies that did not belong to them.

Russia planting colonies on the Pacific—Spain trying to regain her colonies.

0 = No more colonies to be planted—settlement by European nations, no colonies and Holy Alliance; Holy Alliance or extension of Holy Alliance system; to keep the Holy Alliance from helping Spain take back her colonies; no European country could get land in America.

34

3 = 7 correct.

2 = 6 correct.

1 = 5 correct.

Polk.

McKinley.

Monroe.

Cleveland.

Roosevelt.

Arthur or Garfield.

Jackson.

NOTE:—To find the number of questions correctly answered by a pupil divide the total of his credits by 3.

ANSWERS TO QUESTIONS OF INFORMATION SCALE B

- 1 3 = Henry Hudson, Hendrick Hudson, H. Hudson, Hudson.
- 2 3 = George Washington, Washington.
- 3 3 = Cruelly, harshly, badly, roughly, unjustly, mean, wicked, barbarously, poorly; hostile, bad, cruel; abused them; fought hard against them; made slaves of them, like slaves, killed and conquered, cheated them, robbed them.
0 = Kindly, very good, hated them; killed them, nice.
- 4 3 = Grant, Lee, Pickett, Johnson, Hood, McClellan, Thomas, Sheridan, Hooker, Pope.
- 5 3 = France.
- 6 3 = Lexington, Yorktown, Bunker Hill, Brandywine, White Plains, Saratoga, Princeton, Ft. Moultrie, Camden.
0 = Burgoyne's defeat, Brandytown.
- 7 3 = Any two of these: bow and arrow; club; spear; tomahawk or hatchet, or ax.
1 = Any one of the above and knives.
0 = Bow and arrow; tomahawk, hatchet; bone crusher, stone hammer, sword, daggers.
- 8 3 = England, Great Britain, English, British.
- 10 3 = Cartier, Champlain, La Salle, Marquette, Joliet.
0 = De Soto, Ponce de Leon.
- 11 3 = Any two of these: Philippines, Gadsden, Louisiana, Florida, Alaska.
0 = Hawaii, Oregon, Texas, Northwest territory.
- 12 3 = Spain, France.
- 13 3 = (a) Exploring.
(b) Settling.
(c) Nation-making.
- 14 3 = (a) Holland—Dutch.
(b) England—English.
(c) France—French.
(d) England—English.
1 = Any three of the four correct.
0 = Inclusion of Quakers or Pilgrims among the three.
- 15 3 = (a) Stagecoach, coach.
(b) Railroad, locomotive.
- 16 3 = 3-5-1-4-2.

- 1 = One interchange. (See note below answer to 25 in Key to Information Questions Scale A.)
- 17 3 = Any three of these: Washington, Lee, Greene, Putnam, Gates, Stark, Marion, Schuyler, Warren, Sullivan, Herkimer.
1 = Any two of the above for the first two, with the third omitted or wrong.
0 = Any two of them with the first or second wrong, or including Lee or Lincoln.
Robert E. Lee, Clarke, Gage, Howe, Clinton, Jones, Wolfe, Lafayette.
- 18 3 = Reaper, harvester, machine for cutting grain, reaping machine.
0 = Iron plow and reaper, reaper and locomotive.
- 19 3 = Steam or steam engine.
0 = Water power and steam, water power, steamboat, railroad.
- 20 3 = (a) Cotton gin.
(b) Sewing machine or Howe's machine.
- 21 3 = (a) Catholics.
(b) Puritans.
(c) Quakers.
1 = Catholics, Puritans and Protestants; or Catholics, Protestants and Quakers.
Two out of the three correct, the other one being wrong or omitted.
- 22 3 = Canoes walking, running, on foot, trails, or small paths, Paddling, rowing walking.
0 = Boat or water walking.
Horse, horseback, or riding walking, running or canoe.
Canoe, walking snowshoes.
- 23 3 = Protective tariff; tariff, high or low tariff.
- 24 3 = (a) Steamboat.
(b) Railroad, locomotive, or steam engine.
(c) Trolley car or automobile.
1 = Any two of the three correct, the other one being wrong or omitted.
- 25 3 = 2-7-1-6-3-5-4.
2 = One interchange or two interchanges or one two-place displacement.
1 = One three or more place displacement or one two-place displacement and one interchange, or one double interchange as 3-2-1-4-5-6-7 or three interchanges.
(See note below answer to 25 in Answers to Questions of Information Scale A.)
- 26 3 = 6-3-1-7-5-2-4.
2 = One interchange or two interchanges or one two-place displacement.
1 = One three or more place displacement or one two-place displacement and one interchange, or one double interchange as 3-2-1-4-5-6-7 or three interchanges.
- 27 3 = 12 correct.
2 = 10 or 11 correct.
1 = 8 or 9 correct.
Supreme Court judge statesman
general Supreme Court judge
inventor statesman
preacher inventor
president general
inventor president
- 28 3 = 7 correct.
2 = 6 correct.
1 = 5 correct.

- 0 = 4 correct.
 Revolutionary.
 Civil.
 Spanish-American.
 Mexican, 1845-8.
 Civil.
 Civil.
 1812.
- 29 3 = John Adams.
 Alexander Hamilton.
 Benjamin Franklin.
 Abraham Lincoln.
 George Washington.
 Daniel Webster.
- 1 = One of these not checked in addition to the other three not checked.
 One besides these checked.
- 30 3 = 16 correct.
 2 = 14 or 15 correct.
 1 = 12 or 13 correct.
 Missouri. Henry Clay.
 Kansas-Nebraska Act. Stephen A. Douglas.
 South Carolina. John C. Calhoun.
 Secession. Jefferson Davis.
 Monroe Doctrine. Grover Cleveland.
 Ordinance of 1787. George Rogers Clark.
 Black people not citizens. Roger B. Taney.
 War with Mexico. James K. Polk.
- 33 3 = Extension of slavery in the territories, slavery in the territories, spread of slavery, slavery increasing.
 1 = Slavery movement.
 0 = Slavery, withdrawal of the Missouri Compromise, secession, doing away with slavery, abolition of slavery.
- 34 3 = (a) Protective tariff question.
 (b) Demand for a shorter working day.
 (c) Maintaining neutrality.
 (d) Extension of suffrage to another group of people.
 1 = One besides the above checked.
 One of these four unchecked, the rest also being unchecked.
 0 = Two of these four unchecked, the rest also being unchecked.

NOTE.—To find the number of questions correctly answered by a pupil divide the total of his credits by 3.

ANSWERS TO QUESTIONS OF THOUGHT SCALE A

QUESTION CREDIT

- 1 3 = In sailboats, by the wind.
 0 = In steamboats, in row boats, in row boats and logs, rafts, canoes, in wooden boats, boats, in flat boats, vessels, big ships, wooden boats.
- 2 3 = A short route to India, India; western passage to India, western route to India, northwest passage to India; a new way to India, a way to India, an easy way to India.
 2 = Indies or East Indies.
 0 = Asia, a passage to the west.
- 3 3 = 100 years ago there were no railroads, no trains or steamships, traveled by stagecoach or horses.
 (Today we have railroads.)

- 2=Hard to travel, poor means of transportation; swift railroads now. (Traveling was so slow.)
 1=Did not have fast trains. (More mail carriers and railroads; quicker boats and trains, no railroads and telegraph.)
 0=They had no steam; no means of transportation, no means of traveling; they had sailboats then.
- 4 3=The Northmen; Vikings, Lief Ericson.
 0=Columbus, Indians.
- 5a 3=Make it cheaper; cheaper, lessen the cost, reduce the cost, got low, would become cheap; it would be cheap, cheap; (made cotton cheaper; made it more profitable.)
 1=50 times cheaper.
- 5b 3=Increase the amount, more cotton raised, more could be raised, large amount, huge quantities.
 1=50 times as much or 100 times as much.
- 5c 3=Lower the price, make it cheaper, make it cost less, go low, go down, cheaper; much cheaper, less, lower, make it very cheap, cheap cotton goods, cheap.
- 6 3=Sell it to the United States (or to America); sold it to the United States.
 1=(Sell it.)
 0=(To give it to the United States.)
- 7 3=New inventions, invention of machinery, use of machinery. (They had machines, had no machines to raise it.)
 2=By an invention; invention of some specific machine, i. e., reaper; machinery. (Better machinery.)
 1=(Had different machinery or different tools, more machines, factories and mines; mining and making tools.)
- 8 3=Manufacturing and mining (mining and factories, mining and smelting.)
 1=Manufacturing (or foundry work), (manufacturing of iron and manufacturing of cotton), mining.
 0=Iron work, coal (manufacturing and farming, mining and commerce, manufacturing and shipbuilding; mining and railroads).
- 10a 3=There was not much under cultivation, very little cultivated, very small, not much was cultivated, very little, only a part, small parts; large amount of woodland.
 0=A great deal was cultivated, large proportion, large, it was immense, more than half; people did not have much land; people had large farms, large pieces of land.
- 10b 3=Cheap, not expensive, very cheap, cost very little, price very low.
 0=Dear, expensive, not very cheap; cost nothing.
- 10c 3=Did not know much about agriculture, very little knowledge, very limited; knew very little about fertilizing; very little knowledge about agriculture, poor farmers, very poor; very little, small.
 1=Did not know anything about agriculture, bad knowledge, very ignorant, bad; little agriculture.
 0=Very good, plenty of knowledge of farming; good; knew a great deal about agriculture; knew much about fertilizing.
- 11a 3=Manufacturing of cotton goods, textile manufacturing, making clothing; manufacturing of cotton, cotton manufacturing.
 2=Manufacturing.
 0=Importation or exportation of cotton; commerce, cotton, cotton goods, making suits.

(For the values assigned to the answers in parentheses the author alone is responsible.)

- 11b 3=It would stop it, it would stop cotton manufacturing; prevent England from getting the cotton, have no cotton to manufacture, cotton could not be sent to England. (Manufacturing in England would be almost stopped.)
 1=Not as important, hurt the occupation; not good, very poor, bad for England; throw lots of workers out, put people out of work.
 0=England could not sell cotton or manufactured goods; stop its exportation, could not export it, could not send it out; stop England's trade with the South.
- 12 3=Use of electricity or electric power; invention of electricity or electric power, electric power; electricity.
- 13 3=To make money, to enrich their merchants, to grow rich, to gain, to make on the colonies, to get much out of their colonies; betterment of England.
 To gain trade, to gain control of the trade of the colonies; England wanted all the trade herself, to receive all our products and fix prices; to get Americans to send them their products.
 2=So the colonies would not sell their goods to other countries for more money, not to trade with other countries, colonists might get things from other countries, so they would be the only country to get the benefit of their things; so she could get the best; to make her commerce big.
 To have full control over her colonies, to keep them from gaining their independence, to prevent the colonies from becoming too wealthy, to make the colonies less rich. So they could buy cheaper, to make the colonies pay more, to fix prices on colonial goods.
 1=To tax the colonies, to get the tariff, to get more money, to pay the war debt.
 To keep the colonies small and weak, to gain a greater foothold, to oppress them.
 To get all the trade from Holland; wanted England to become mistress of the seas.
- 14 3=Blockade the Southern ports, cut off the Southern trade with England, stop cotton trade, prevent the South from exporting cotton, prevent the South from selling cotton.
 0=Stop manufactured articles going to the South; build factories, manufacture cotton goods, manufacture more things; to get possession of the South.
 (Blockade the ports and free the slaves.)
- 15a 3=Royalists, the king's favorites, people who believed in the king; those who belonged to the Church of England; Cavaliers.
 2=(High class people, rich people.)
- 15b 3=Virginia (to the Southern colony).
- 16a 3=Knew nothing about iron, did not know about iron, did not know how to use iron, did not know the use of iron.
 2=Knew little about iron, did not know much about iron, did not use much iron, very rare, very poor knowledge, it was no good; did not know the value of iron.
- 16b 3=Inefficient, considered poor now, not very good, very poor, not strong; crude, clumsy, hard to use.
 0=They did not have many, had only a few tools; efficient, served their purpose all right, well-made, very useful, good, sharp, tried to do the best they could.
- 17 3=Immigration from Ireland increased on account of the famine and declined when it ceased, Irish came over to escape the famine, famine caused immigration to increase; more Irish came to America when there was a famine in Ireland, number increased at the time of the famine.

- 2=More food in the United States; came where there was no famine. (When conditions were bad in Ireland they came to America.)
 1=After the famine they did not come.
 0=The famine was over in 1851 or 1852; after the famine they came to America; too many people in Ireland. (All the Irish people came here during the famine.)
- 18 3=Capturing British merchant vessels, attacking British merchant vessels (turned pirates, capture or attack them).
 1=Stop the trading, destroy the British vessels.
 0=Attack the British navy, build a navy.
- 19 3=Made it by hand; women wove it; by spinning, using the loom, weaving the cotton; women made it, made it themselves.
 2=Smuggle it in from England or other countries, running the blockade.
 1=Made their own clothes, made clothing by hand; slaves made clothing.
 0=Trading with South American countries or other nations; obtained it from South America; got it from Europe, sent it to England to be made, build factories; got it from the North.
- 20a 3=Yes: Because they did not have to pay a large tax; because it cost them nothing; their children would be educated free.
 2=Yes: Their children would become educated, their children would learn more and it would be cheaper.
 1=Yes: Children would not learn at home, children in rural communities had better opportunities; wanted as many children as possible to attend school, wanted their children to become educated; wanted to educate their children (they wanted a free education), could not afford to educate their children, workingmen were poor, had to pay to have their children educated.
- 20b 3=No: It would raise the taxes on their farms, the tax was so high, could not afford to pay the tax; cost too much.
 2=No: Children could learn the necessary things at home, children did not have to go to school; taught their own children.
 1=No: Children needed in the home or on the farms; could afford to educate their children.
- 21 3=Their own religious freedom, a religion for themselves, their own kind of religion, religious freedom for themselves, for their religion only, Puritan religion; all should have the same religion, to get every one to worship as they did, to have one religion.
 2=To worship as they pleased, as they saw fit, to believe as they wanted to, to go to a church of their own, to pray in their own way; tyrannical religious freedom, compel people to come to church or be punished.
 1=To run things their own way, government would have no say over them, to do what they wanted to do.
 0=Did not want to belong to the Church of England, free from Church of England, separate from the church; to purify the church; Presbyterians, simpler form of worship; true religious freedom; absolute religious freedom, free religious freedom, strict religious freedom; to make money; church attendance and Sabbath observance, to be a Christian and have liberty, Baptist, Catholic. (To belong to any church they wanted to.)
- 22 3=They were Tories or loyalists; refused their aid to the colonies; favored the king, with the king, took the part of England, they had aided England against the colonists; they had fought against the revolutionists. (They were English; they went against the United States.)

1 = Traitors.

0 = They were in debt, government needed money; did not have a strong government, very cruel and mean. (They did not fight for America.)

NOTE.—To find the number of questions correctly answered by a pupil, divide the total of his credits by 3.

ANSWERS TO QUESTIONS OF THOUGHT SCALE B

QUESTION	CREDIT
1	3 = United States ought to help France, help them, help them with men and ships; to become an ally of France, to fight with them, to go on the French side; to go to war with England. 1 = United States ought to go to war, fight. 0 = To interfere, to stop the war.
2a	3 = Answer indicating refusal; "No," "it was theirs." 1 = Fight, war.
2b	3 = Send an army to take it, attack the fort, fight for the fort, attack the French, to have war (fight). 2 = Declare war, say they would fight; prepare for war, build a fort and fight; capture the fort, take it. 0 = Chase them.
3a	3 = Increase it, more freight, more transportation, more extensive trade. 0 = Carry a great deal; cheaper, less freight, decrease it.
3b	3 = Increase the value, raise the value, make it higher, dearer, more expensive, make it valuable, make it expensive, expensive, big value, would be valuable. 1 = Good effect. 0 = Decrease the value; make the land cheaper, valuable for factories; new cities along the canal; people settled along the canal.
3c	3 = Increase the settlement, help build up the West, West would become more settled; more people went to the West, increased population; settled more quickly; opened up the West, West would become settled, West would become great, settlers would begin to go West (settled more thickly). 2 = More people travelled to the West; more people went by the canal; travelling made easier; quicker to go to the West.
4	3 = Food was scarce, lack of food, there was no food in that time, starvation, the people had nothing to eat, there was not enough food. 2 = Hardships of the Jamestown colony, bad times, misery, suffering. (They needed help.) 1 = Hunger, poverty. (They were hungry, they were poor.) 0 = Settlers did not cultivate the land, lazy and did not want to work, careless; a government was needed; were not able to support themselves.
5	3 = Monmouth, Lundy's Lane, Petersburg.
6	3 = Increased it (made it more profitable).
7a	3 = Increased, more money was invested in manufacturing, more, greater, more people invested, a large amount was invested, a lot of money was spent in manufacturing. 1 = More factories were built, more factories; more things were manufactured, more manufacturing was done, manufacturing increased, much manufacturing done. 0 = More than one-half invested.
7b	3 = More goods manufactured, increased, more. 2 = More manufacturing, more factories, a lot of goods were manufactured, large.

- 8 0 = One-half amount of goods, more than one-half, one-half.
 3 = Manufacturing, making our own goods.
- 9 0 = In cotton; commerce, agriculture, mining.
 3 = Immigration was rapidly increasing, increase of immigration,
 immigration rapidly increased, more people came over.
 2 = More came to America every year; population was increasing,
 United States was growing, growth, immigration steadily
 increased.
 1 = Much immigration, many people came to the United States,
 one of the causes of the growth of America, growth of cities.
- 10 3 = Massachusetts.
- 11 3 = Right to vote, suffrage, the ballot, to choose their rulers.
 0 = Right to hold office, a law passed.
- 12a 3 = In the factories, in manufacturing places.
 2 = They were working. (In some manufacturing state or city.)
 0 = In shops; at home or working on the farms; in the fields; no
 more children born.
- 12b 3 = Compulsory education, children must go to school until a
 certain age; child labor laws, child labor is forbidden, law
 forbidding children under fourteen to work; they must have
 a certain age, cannot work under sixteen, have to have working
 papers.
 2 = Against the laws, kept under a certain law, prevented by laws,
 not allowed because of the law, there are rules which are
 enforced.
 0 = Because there are enough workmen, lack of money, child
 labor is reduced, in hospital, in their graves, children would
 have been found dead, teachers are not as mean as they were
 in those days. (Board of Education would not let them,
 forced to go to school.)
- 13a 3 = Shipbuilding.
 1 = Lumbering.
 0 = Commerce, transportation, carpentering.
- 13b 3 = Injured, lessened, decreased or damaged it, destroyed, stopped,
 killed, spoiled, ruined, bad effect, could not send them out.
 0 = Stopped trading; ships could not go out.
- 14a 3 = Very little, not much, was not large.
 0 = Increasing rapidly; schools began to increase, it became larger,
 it was extending rapidly; it extended very much, there was a
 steady increase, it increased; it had spread greatly; greatly
 increased, was increased; increase.
- 14b 3 = Wanted it; believed in it; valued it, thought it important,
 thought it good, favorable, greatly favorable, favored it,
 friendly, very good, liked it; were pleased with it, showed
 great respect toward public education; interested in public
 education; they were anxious to have an education, wanted to
 be educated, wanted an education.
 0 = Liberal education.
- 15 3 = They would decrease, become smaller, diminish, make them
 small, smaller.
 2 = They would be small, they were small, they were not large,
 small, very small.
 0 = Too big.
- 16 3 = (a) Connecticut, (b) Virginia, (b) Pennsylvania,
 (b) New York, (a) Rhode Island.
- 17 3 = Because the first census was taken in 1790, we take the census
 now and then we didn't, there was no census taken; because
 the census was taken in 1790, but not in 1650.
 2 = The census was taken in 1790; the census was taken, we were
 counted in 1790.

- 0 = Census is taken every ten years, because we were not a country until 1789.
- 18 3 = More foreigners in the Northern cities, live in the Northern cities or come to the Northern cities; Northern states or North have more people of foreign birth; Southern states or South have not as many foreigners; foreigners settled in the North.
- 2 = Many foreign people in the Northern cities, Southern cities had few foreigners.
- 1 = All foreigners went to the manufacturing states of the North.
- 0 = Population of North larger than that of the South or vice-versa; Northern cities were settled by foreigners.
- 19 3 = A too strong central government; national supremacy, nation has too much power; not having state rights, that they would not have any state rights, their power would be taken away.
- 2 = Congress having too much power; powers were given to Congress by the Constitution; Congress has the power to do every thing.
- 1 = Of Congress.
- 0 = A monarchy (of the Constitution).
- 20a 3 = No cable; no direct means of communication, no means of communication except by boat, no quick means of communication, took long to spread the news, because it took so long for the news to cross the ocean, no easy way to send a message, no means of quick transportation, had to come in sailing ships; no wireless.
- 2 = No telegraph, no ocean steamers, no fast ocean steamers, slow vessels.
- 1 = Slow traveling.
- 0 = Bad communication, did not have good transportation; delayed, few ships, no railroads; had to travel under water, English kept it back, on account of the weather, mail traveled slowly; no postmen, had no good roads; all American and British ships were lost; (telephone not invented).
- 20b 3 = No effect, nothing.
- 0 = Change them in favor of the American side, gave more to America, more benefit to the Americans; we could make larger demands; Americans could demand more.
- Peace would be restored quicker; quicken arrangements. Delay peace, take long; it would be prolonged; treaty would be no good; have to make another, bust them up, there would be no peace, change the treaty, bad effect, Americans would be victorious.
- 21 3 = Dutch settlement was becoming stronger, more Dutch had come to America, New Amsterdam settled in 1623.
- 1 = Dutch had been preparing, had been raising an army, had been building a navy.
- 0 = English were trying to get New Netherlands.
- 22 3 = There were not railways to ship it around, no means of transportation; not many railroads or ways to carry it.
- 1 = Too expensive to ship it around, it was too costly; water power was cheaper than coal (poor means of transportation, could not transport it quickly enough).
- 0 = People had water power; did not have the machinery to use it; there was not enough, not found everywhere; water power better, did not know its usefulness, did not need it, because they could not get fuel, could not get it everywhere.

NOTE.—To find the number of questions correctly answered by a pupil, divide the total of his credits by 3.

ANSWERS TO QUESTIONS OF CHARACTER SCALE A

1	indifferent	cowardly	cautious	polite	<i>brave</i>
	<i>courageous</i>	spiteful	fearful	<i>daring</i>	timid
2	cowardly	prudent	ignoble	<i>fearless</i>	<i>daring</i>
	treacherous	cautious	<i>courageous</i>	selfish	faithless
3	<i>just</i>	obstinate	irresolute	servile	resentful
	compliant	<i>honorable</i>	<i>patriotic</i>	unfair	submissive
4	ignoble	meddlesome	<i>courageous</i>	reckless	foolhardy
	crabbed	<i>persistent</i>	spiteful	<i>undaunted</i>	peevish
5	cruel	timid	cowardly	mean	<i>self-sacrificing</i>
	crafty	<i>heroic</i>	selfish	<i>noble</i>	treacherous
6a	faithful	<i>false</i>	honest	<i>unscrupulous</i>	fearless
	<i>dishonest</i>	resolute	gentle	vengeful	spiteful
6b	timid	selfish	<i>honest</i>	unscrupulous	<i>fearless</i>
	cowardly	spiteful	<i>resolute</i>	vengeful	dishonest
7a	frightened	<i>resolute</i>	excited	terrified	careless
	<i>deliberate</i>	wavering	timid	cowardly	<i>cool</i>
7b	treacherous	brave	crafty	<i>excited</i>	cool
	<i>terrified</i>	courageous	resolute	bold	<i>irresolute</i>
8	cautious	tactful	<i>callous</i>	generous	courteous
	thoughtful	sympathetic	<i>rude</i>	<i>insolent</i>	considerate
9	heroic	<i>treacherous</i>	defiant	noble	<i>deceitful</i>
	brave	<i>untrustworthy</i>	honest	daring	timid
10	humane	disloyal	merciful	<i>cruel</i>	heroic
	careless	kind	<i>crafty</i>	noble	<i>stealthy</i>
11	<i>intrepid</i>	dismayed	gentle	shrinking	<i>resolute</i>
	cowardly	treacherous	timid	<i>dauntless</i>	deceitful
12	kind	bitter	<i>sarcastic</i>	generous	cautious
	<i>humorous</i>	ignoble	abusive	sympathetic	<i>ready-witted</i>
13a	<i>negligent</i>	courageous	zealous	<i>rash</i>	intrepid
	ardent	<i>shortsighted</i>	capable	firm	undaunted
13b	wary	selfish	cautious	cowardly	<i>incautious</i>
	<i>negligent</i>	prudent	zealous	<i>incompetent</i>	defiant
14	tolerant	<i>bigoted</i>	fair	generous	<i>narrow-minded</i>
	open-minded	daring	<i>prejudiced</i>	liberal	deceitful
15a	tactful	petty	noble	<i>daring</i>	<i>impudent</i>
	generous	honorable	cowardly	<i>amusing</i>	courteous
15b	prudent	tactful	<i>impulsive</i>	just	deliberate
	modest	<i>resentful</i>	cool	generous	<i>touchy</i>

NOTE.—Three credits are given for each problem in which the three words are correctly underlined or the three motives correctly checked. One credit is given for each problem in which two out of the three words are correctly underlined or two out of the three motives are correctly checked. One credit is also given in case the three words are correctly underlined and also one wrong word is underlined; and likewise when the three motives are correctly checked and one wrong motive is also checked. To find the number of problems correctly done by a pupil divide the total of his credits by 3. Correct answers are printed in italics.

ANSWERS TO QUESTIONS OF CHARACTER SCALE B

1	careless	cruel	timid	<i>courageous</i>	cautious
	foolish	<i>heroic</i>	<i>noble</i>	selfish	spiteful
2a	careless	<i>enduring</i>	disloyal	<i>steadfast</i>	faint-hearted
	wavering	seditions	<i>persevering</i>	treacherous	ignoble
2b	cowardly	deceitful	reckless	<i>self-sacrificing</i>	timid
	faint-hearted	callous	<i>faithful</i>	unfeeling	<i>courageous</i>
3	defiant	<i>honorable</i>	<i>brave</i>	false	cowardly
	servile	irresolute	unfair	<i>gallant</i>	stupid

4	shiftless	careless	enduring	foolhardy	cowardly
	timid	dauntless	lazy	stout-hearted	negligent
5a	treacherous	fearless	resentful	cowardly	deceitful
	independent	selfish	resolute	submissive	crafty
5b	prudent	faithless	dependable	just	false
	upright	conscientious	loyal	untrustworthy	independent
6	selfish	treacherous	daring	cruel	spiteful
	timid	fearful	brave	bold	cowardly
7	weak	timid	incapable	sympathetic	incompetent
	cowardly	negligent	tactful	chivalrous	dishonest
8a	spiteful	petty	independent	ignoble	daring
	reckless	wavering	foolhardy	patriotic	timid
8b	brave	patriotic	unjust	courageous	prudent
	contemptible	just	judicious	despicable	careless
8c	unfair	just	timid	traitorous	free
	despicable	submissive	cautious	independent	ignoble
9	rude	spiteful	blunt	clever	tactless
	shrewd	abusive	unfair	humorous	discourteous
10	noble	rude	heroic	tactless	courteous
	gallant	discourteous	considerate	tactful	courageous
11	cowardly	bold	considerate	judicious	weak
	yielding	daring	dilatory	prudent	timid
12	self-seeking	patriotic	servile	defiant	independent
	ignoble	insolent	stubborn	democratic	obstinate
13a	cowardly	servile	obstinate	firm	stubborn
	compliant	honorable	submissive	conscientious	irresolute
13b	shrewd	unjust	suspicious	credulous	clever
	servile	sagacious	false	deceitful	treacherous
14	just	simple	fair	careful	incompetent
	wary	frank	honest	credulous	watchful

NOTE.—For computation of scores see note on answers to Character Scale A, page 63.

ANSWERS TO QUESTIONS OF CHARACTER SCALE L

1. She may have felt that they would probably all be killed and that she would rather die fighting as the men did.
She may have felt that it was her plain duty.
She may have felt that it was worth risking her life to save those in the fort.
2. He may have done it because he thought so much of his boy.
He may have felt that it was his duty.
He may have feared that he could never be happy again if his little son were killed.
- 3a. They may have thought that the white soldiers had the advantage.
They may have been too frightened to oppose the white soldiers.
They may have wanted to save their own lives at any cost.
- 3b. They may have wanted to make the Indians fear and dread them.
They may have wanted to defeat the Indians completely.
They may have felt that this was too good an opportunity of punishing the Indians for past ravages to lose.
4. They may have wanted to take revenge on the white men for having injured some one of their kin.
They may have been in a rage over some act which they thought the white people had done to injure them.
They may have been at war with the white people and this action may have seemed perfectly right to them.
5. He may have felt responsible for the lives of his men and the happiness of their families.
He may have thought that there was nothing worth while to be gained by shooting a few more of the enemy.

- He may have thought that the lives of his men were too precious to be unnecessarily risked.
6. He may have done it because he believed the right of petition should be preserved.
He may have felt that it was his duty to try to break down the "gag-rule."
He may have done it to arouse popular opposition to the "gag-rule."
- 7a. He may just have wanted the adventure.
He may have been exasperated by the condition of affairs.
He may have felt that it was his duty.
He may have wanted to put a stop to the Indian outrages so that he and his neighbors might live in security.
- 7b. He may have wanted to show his own authority in the colony.
He may have been afraid of losing his own trade with the Indians.
He may not have cared enough about the welfare of the colonists to allow them to put a stop to the Indian attacks.
- 8a. He may have wanted to expose what seemed to him a public wrong.
He may have wanted to bring about a better condition in public affairs.
He may have felt that it was his duty to make the attacks.
- 8b. They may have feared that their party might be overthrown and that they might lose their positions.
They may have been afraid to have their actions honestly exposed.
They may have thought that such attacks were dangerous for their own welfare.
- 9a. He may have cared very little about the welfare of the colony.
He may have needed the money to keep up his social position.
He may have wanted to make just as much money as he could.
- 9b. He may have wanted to win the approval of the English Crown.
He may have wanted to improve the condition of the repressed and to see that all received justice.
He may have felt that it was his duty to act as he did.
10. They may have wanted to rescue the man just because they felt sorry for him.
They may have wanted to outwit the British.
They may have felt that it was their duty to rescue this man.

APPENDIX I

DATA ON CORRELATIONS BETWEEN SCALES

In Tables 54 to 56 are given the coefficients of correlation between each two of the related scales, A and B, worked out by the Pearson products-moment formula. The grades designated by an asterisk consist of those pupils in two of the schools who tried all the seven scales. The other grades consist of all the pupils who tried each of the related scale. Although the problems of Character Scales A and B extend over a much shorter range of difficulty than do either the Information or Thought Scales, as may be seen by consulting Figs. 17 to 22, the correlation between these two related scales is somewhat higher than it is between the two scales of the other related pairs. The higher correlations obtained in most cases where the scores of the boys and girls are used together are due to the wider range over which the scores extend when combined.

TABLE 54

CORRELATIONS BETWEEN INFORMATION SCALES A AND B

Scales	Grade	Sex	No.	<i>r</i>
Information A—Information B	8*	Male	115	.642
Information A—Information B	7*	Male	79	.793
Information A—Information B	6*	Male	123	.696
Information A—Information B	8	Male	221	.689
Information A—Information B	7	Male	200	.751
Information A—Information B	6	Male	252	.745
Information A—Information B	8*	Female	141	.726
Information A—Information B	7*	Female	111	.650
Information A—Information B	6*	Female	107	.650
Information A—Information B	8	Female	237	.732
Information A—Information B	7	Female	214	.706
Information A—Information B	6	Female	266	.718
Information A—Information B	8*	Both	256	.759
Information A—Information B	7*	Both	190	.779
Information A—Information B	6*	Both	230	.761
Information A—Information B	8	Both	458	.768
Information A—Information B	7	Both	414	.808
Information A—Information B	6	Both	496	.764

Average of 6 coefficients for males = $.718 \pm .0135$
 Average of 6 coefficients for females = $.697 \pm .0094$
 Average of 6 coefficients for both = $.773 \pm .0047$

TABLE 55

CORRELATIONS BETWEEN THOUGHT SCALES A AND B

Scales	Grade	Sex	No.	<i>r</i>
Thought A—Thought B	8*	Male	115	.662
Thought A—Thought B	7*	Male	79	.765
Thought A—Thought B	6*	Male	123	.750
Thought A—Thought B	8	Male	177	.662
Thought A—Thought B	7	Male	182	.732
Thought A—Thought B	6	Male	218	.784
Thought A—Thought B	8*	Female	141	.761
Thought A—Thought B	7*	Female	111	.767
Thought A—Thought B	6*	Female	107	.727
Thought A—Thought B	8	Female	220	.774
Thought A—Thought B	7	Female	178	.735
Thought A—Thought B	6	Female	193	.744
Thought A—Thought B	8*	Both	256	.751
Thought A—Thought B	7*	Both	190	.783
Thought A—Thought B	6*	Both	230	.771
Thought A—Thought B	8	Both	397	.757
Thought A—Thought B	7	Both	360	.760
Thought A—Thought B	6	Both	411	.795

Average of 6 coefficients for males = $.726 \pm .0128$ Average of 6 coefficients for females = $.751 \pm .0047$ Average of 6 coefficients of both = $.769 \pm .0042$

TABLE 56

CORRELATIONS BETWEEN CHARACTER SCALES A AND B

Scales	Grade	Sex	No.	<i>r</i>
Character A—Character B	8*	Male	115	.798
Character A—Character B	7*	Male	79	.863
Character A—Character B	6*	Male	123	.791
Character A—Character B	8	Male	201	.801
Character A—Character B	7	Male	164	.822
Character A—Character B	6	Male	248	.822
Character A—Character B	8*	Female	141	.863
Character A—Character B	7*	Female	111	.802
Character A—Character B	6*	Female	107	.903
Character A—Character B	8	Female	219	.838
Character A—Character B	7	Female	176	.837
Character A—Character B	6	Female	222	.844
Character A—Character B	8*	Both	256	.844
Character A—Character B	7*	Both	190	.831
Character A—Character B	6*	Both	230	.822
Character A—Character B	8	Both	420	.823
Character A—Character B	7	Both	340	.833
Character A—Character B	6	Both	470	.833

Average of 6 coefficients for males = $.816 \pm .0066$ Average of 6 coefficients for females = $.847 \pm .0084$ Average of 6 coefficients for both = $.831 \pm .0020$

TABLE 57

CORRELATIONS BETWEEN CHARACTER SCALE L AND CHARACTER SCALES A AND B

Scales	Grade	Sex	No.	<i>r</i>
Character L—Character A	8*	Male	115	.537
Character L—Character A	7*	Male	79	.754
Character L—Character A	8*	Female	141	.720
Character L—Character A	7*	Female	111	.829
Character L—Character A	8*	Both	256	.659
Character L—Character A	7*	Both	190	.780
Character L—Character B	8*	Male	115	.622
Character L—Character B	7*	Male	79	.747
Character L—Character B	8*	Female	141	.694
Character L—Character B	7*	Female	111	.723
Character L—Character B	8*	Both	256	.686
Character L—Character B	7*	Both	190	.724

TABLE 58

CORRELATIONS BETWEEN ALL THE A SCALES AND ALL THE B SCALES

Scales	Grade	Sex	No.	<i>r</i>
Information A+Thought A+Character A with				
Information B+Thought B+Character B	8	Male	115	.879
Information A+Thought A+Character A with				
Information B+Thought B+Character B	8	Female	141	.872
Information A+Thought A+Character A with				
Information B+Thought B+Character B	8	Both	256	.890

In Table 57 are given the correlations between Character Scales A and B and Character Scale L. It will be noted that the correlations obtained from the seventh grade scores are considerably higher than those obtained from the eighth grade scores. Character Scale L evidently extends over too short a range of difficulty, as may be seen by referring to Fig. 23. From the sixth grade scores in the preliminary tests still higher coefficients were found, the highest being .85 when the scores for the fourteen problems of character Scale L were correlated with the scores for the corresponding fourteen problems of Character Scale A.

In Table 58 are given the results when the scores for all the A

scales are combined and correlated with the combined scores of all the B scales. By the use of Brown's formula,

$$r_n = \frac{nr}{1 + (n-1)r}$$

it is found that the scores from the six scales would give a correlation of .94 with scores obtained from six similar scales. In order to obtain a correlation, say, of .978 between two similar groups of scales it would be necessary to use five times as many scales or thirty scales, ten scales of each type instead of two.

Despite the fact that the variability in the pupil's performance precludes the use of these scales to accurately measure, for purposes of comparison, the work of the individual pupils in a grade, they are surely of value in measuring the work of a grade or class as well as that of a school system for purposes of comparison. The P. E. of the median for all the eighth grade pupils tested with Information Scale A is .155. Thus the chances are even that the true median of this group of 460 pupils will lie within the limits of 15.52 and 15.83 questions; the chances are 1 to 5 that it will lie within the limits of 15.35 and 16 questions for this sampling of children.

Selecting at random from among the mixed classes a class of eighth grade pupils, containing 21 girls and 21 boys, the median is 16.33, with a P. E. of the median of .47. This means that the chances are even that the true median of this class of 42 pupils will lie within the limits of 15.84 and 16.80; that the chances are approximately 4 to 7 that the true median of this group will not fall below the median for all the eighth grade pupils tested with Information Scale A, nor rise above 1.3 questions above that median, or above 17 questions.

Selecting at random from among the male classes a class of eighth grade pupils, containing 36 boys, the median is 15.83, with a P. E. of the median of .35. In the case of this grade of boys, where the variability of the class is smaller than that of the mixed class, as one would expect to find, the chances are even that the true median lies within the limits of 15.48 and 16.18; the chances are approximately 1 to 5 that the true median will not lie outside the limits of 15.1 and 16.55 questions.

APPENDIX II

DATA ON SEX DIFFERENCES

In Tables 59 to 65 are given the per cent of boys and girls of each grade who did correctly each number of questions in each of the seven scales. These tables should be read as follows: In Table 59—In Grade 4, 1.1 per cent of the girls answered less than one question of Information Scale A correctly; 6.5 per cent of the girls and 1.7 per cent of the boys answered at least one but less than two questions correctly; 15.7 per cent of the girls and 3.8 per cent of the boys answered at least two questions but less than three questions correctly. At the bottom of the table it is stated that in Grade 4 the median girl answered 4.367 questions correctly while the median boy answered 5.591 questions correctly, the median boy, of course, being the one who stands at the mid-point, or in the 119th place from the bottom of the fourth grade group of boys. These medians are grouped together in Table 66 for the girls and in Table 67 for the boys.

TABLE 59

PER CENT OF EACH SEX IN EACH GRADE CORRECTLY ANSWERING EACH
NUMBER OF QUESTIONS IN INFORMATION SCALE A

Grade	4		5		6		7		8	
Sex	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.
0	1.1									
1	6.5	1.7		0.4						
2	15.7	3.8	0.5	0.0	0.4	0.4		0.5		
3	17.6	13.0	4.0	0.9	0.7	0.0		0.0		
4	24.5	19.3	3.5	0.4	2.2	0.8	1.8	0.0	0.4	
5	16.9	20.6	13.6	2.1	3.3	0.4	2.3	0.0	0.0	
6	10.0	10.9	15.6	6.0	4.8	2.3	8.2	1.1	1.3	
7	5.4	11.4	20.1	12.9	7.7	1.5	11.5	0.0	2.1	0.4
8	1.9	7.2	13.6	12.9	14.4	3.8	10.1	3.8	6.3	0.0
9	0.4	4.2	9.0	14.6	12.1	5.7	11.5	3.4	5.0	0.4
10		3.8	9.0	14.6	12.1	6.9	11.5	3.4	10.1	0.9
11		2.5	6.5	13.3	12.9	11.5	14.7	9.1	8.4	4.1
12		0.8	2.0	7.7	8.1	9.6	6.4	6.7	7.5	2.3
13		0.8	1.5	3.9	8.1	11.1	7.3	8.2	9.6	3.6
14			1.0	4.3	6.3	10.3	5.0	12.0	13.8	6.3
15				2.1	3.7	9.2	5.0	9.1	10.1	13.1
16				2.1	1.1	8.0	1.4	11.5	5.4	10.0
17				1.3	7.3	7.7	1.4	9.6	7.5	13.6
18				0.4	1.4	2.3	0.9	7.7	4.2	13.6
19						3.1	0.5	5.8	5.0	7.7
20						2.7	0.0	3.4	1.3	9.5
21						1.1	0.5	1.4	0.8	4.1
22						1.1		3.4	0.0	6.3
23						0.0			0.4	2.3
24						1.1			0.4	0.9
25									0.0	0.9
26									0.0	
27									0.4	
Number tested	261	238	199	233	271	261	218	208	239	221
Median	4.367	5.591	7.637	9.985	10.348	13.638	10.400	15.210	13.934	17.650

TABLE 60

PER CENT OF EACH SEX IN EACH GRADE CORRECTLY ANSWERING EACH
NUMBER OF QUESTIONS IN INFORMATION SCALE B

Grade Sex	4		5		6		7		8	
	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.
0	1.2	0.9								
1	4.6	2.1	0.5							
2	21.9	2.5	2.0	0.4			0.5			
3	27.7	14.7	8.9	3.0	1.9	0.4	0.5			
4	23.1	16.4	14.3	3.5	4.2	0.8	1.4	1.0		
5	13.8	19.3	14.8	6.5	4.9	1.1	4.7	0.0	1.7	
6	5.0	14.7	14.3	6.1	6.8	1.9	7.0	1.0	1.3	
7	1.9	10.9	9.8	12.1	11.6	2.3	7.0	0.5	2.5	
8	0.4	7.2	9.3	14.3	9.7	5.8	12.1	1.0	1.3	
9	0.4	5.9	8.4	15.2	10.8	5.0	7.9	3.5	2.9	0.4
10		2.5	6.4	6.9	8.6	6.9	9.8	2.0	5.8	0.4
11		2.5	5.4	6.9	9.0	10.4	9.8	5.5	9.2	1.4
12		0.4	2.9	9.5	9.3	11.1	8.8	5.5	8.7	1.8
13			2.0	5.2	7.4	8.1	6.5	7.5	5.8	3.6
14			0.0	4.3	5.2	10.0	5.1	9.0	10.0	8.6
15			1.0	3.0	3.0	8.1	7.0	10.5	10.8	7.6
16				1.7	2.6	7.7	1.8	9.0	9.2	10.8
17				0.9	2.2	6.1	1.8	9.5	6.2	8.1
18				0.4	1.1	3.5	2.7	7.5	6.2	10.3
19					0.0	3.1	3.2	10.0	5.0	10.0
20					1.1	1.9	0.9	6.0	7.1	10.8
21					0.4	2.7	0.5	4.5	0.8	7.6
22						1.9	0.5	3.0	2.5	5.4
23						0.8	0.5	2.5	1.3	5.0
24						0.4		0.5	1.3	2.7
25								0.0	0.4	3.6
26								0.5		1.8
Number tested	260	238	203	231	267	260	215	200	240	222
Median	3.944	5.696	6.672	9.271	10.021	13.524	10.928	16.333	15.077	18.695

TABLE 61

PER CENT OF EACH SEX IN EACH GRADE CORRECTLY ANSWERING EACH
NUMBER OF QUESTIONS IN THOUGHT SCALE A

Grade Sex	4		5		6		7		8	
	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.
0	20.7	11.2	4.2	1.4						
1	22.5	19.0	9.0	4.7	3.1					
2	23.8	25.9	18.0	7.6	5.1	1.7	1.7		0.4	
3	22.5	22.8	17.5	10.4	5.6	1.3	1.7	1.6	0.4	
4	5.7	11.2	11.1	8.5	7.7	2.2	2.2	0.5	0.0	
5	3.5	3.9	6.9	11.9	6.7	3.0	1.7	1.6	1.3	
6	1.3	3.9	7.9	13.3	12.3	3.4	7.8	0.5	2.2	0.6
7		0.4	9.5	7.6	8.7	7.3	5.6	1.6	2.6	1.7
8		0.0	5.8	7.6	7.2	5.6	5.6	2.7	2.6	1.7
9		1.3	2.6	6.6	8.2	7.7	5.6	4.4	3.5	0.6
10		0.0	0.5	4.7	4.6	6.9	8.4	3.8	3.5	1.1
11		0.4	2.6	3.8	6.7	6.9	7.3	6.6	8.4	2.8
12			0.5	3.3	4.1	4.7	7.3	6.6	10.6	3.9
13			1.1	2.4	5.1	7.7	7.3	7.1	7.5	3.4
14			1.6	2.9	2.6	11.6	6.7	5.5	4.4	5.1
15			0.0	0.9	4.1	4.7	6.7	6.0	7.5	2.2
16			0.0	0.9	2.1	4.7	6.7	10.4	6.6	5.1
17			0.0	0.5	2.6	7.7	4.5	6.6	6.6	3.4
18			0.5	0.9	1.0	4.3	3.9	6.6	1.8	7.9
19			0.0		0.5	2.2	1.7	8.2	7.0	11.9
20			0.0		1.5	3.4	3.3	6.6	4.8	9.6
21			0.0		0.5	6.2	1.1	3.3	5.7	11.9
22			0.0			0.4	1.1	4.4	2.2	9.6
23			0.0			0.0	1.1	2.2	2.6	5.6
24			0.5			0.4	1.1	2.7	3.1	6.8
25								0.5	1.8	1.1
26									1.8	3.4
27									0.9	0.6
28										
Number tested	227	232	189	211	195	233	179	183	227	177
Median	2.289	2.766	4.119	6.410	8.107	12.863	12.346	16.131	15.324	19.881

TABLE 62

PER CENT OF EACH SEX IN EACH GRADE CORRECTLY ANSWERING EACH
NUMBER OF QUESTIONS IN THOUGHT SCALE B

Grade	4		5		6		7		8	
Sex	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.
0	29.8	19.2	7.5	2.8	0.5			0.5		
1	31.2	20.5	10.1	6.6	2.0	0.4	1.1	0.0	0.4	
2	14.5	11.4	10.6	4.7	3.1	1.8	1.7	0.0	0.0	
3	13.6	27.9	17.0	13.6	7.1	0.0	2.3	1.1	0.9	0.6
4	4.8	8.3	12.2	12.2	9.7	1.8	4.5	0.0	0.9	0.0
5	2.6	4.4	11.7	11.3	8.2	4.0	3.4	1.6	1.3	0.0
6	0.4	3.5	9.1	10.3	5.6	4.0	7.3	1.1	0.4	0.6
7	1.3	1.3	5.3	7.0	8.7	7.6	3.9	2.7	1.8	0.0
8	0.9	0.9	6.4	8.5	8.7	5.4	6.2	3.8	1.8	0.6
9	0.4	0.9	3.2	5.6	6.6	4.9	5.6	2.7	2.7	1.1
10	0.4	0.4	1.1	5.2	8.7	8.5	9.0	4.9	3.6	0.0
11		0.0	1.6	1.9	6.6	8.1	7.3	3.3	4.9	2.8
12		0.4	1.6	4.2	3.1	7.2	5.1	8.7	5.8	0.6
13		0.4	0.5	1.9	3.6	7.6	5.1	5.5	5.4	2.8
14		0.4	0.0	1.4	2.5	4.9	8.5	7.7	6.7	5.0
15			1.1	0.9	2.0	4.0	4.5	8.2	5.4	3.4
16			0.5	1.4	3.6	8.5	5.1	8.2	5.8	8.4
17			0.0	0.0	5.1	5.8	2.8	8.2	8.0	6.7
18			0.0	0.0	2.5	4.9	6.8	5.5	8.5	6.7
19			0.0	0.5	1.0	2.3	2.8	3.8	7.6	10.1
20			0.5		1.0	2.3	1.1	5.5	6.3	8.4
21						2.3	2.3	4.9	6.3	11.8
22						1.3	0.6	4.9	7.6	9.0
23						0.9	2.8	2.2	1.8	6.2
24						0.4		3.8	1.3	6.2
25						0.4		0.5	1.3	4.5
26						0.4		0.5	2.2	3.4
27									0.4	1.1
28									0.4	
29									0.4	
30										
Number tested	228	229	188	213	196	223	177	183	224	178
Median	1.648	2.904	4.391	5.895	8.588	12.468	11.654	15.766	17.277	20.062

TABLE 63

PER CENT OF EACH SEX IN EACH GRADE CORRECTLY ANSWERING EACH
NUMBER OF QUESTIONS IN CHARACTER SCALE A

Grade	4		5		6		7		8	
Sex	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.
0	21.3	21.2	6.8	4.7	0.9	0.4				
1	31.3	28.6	11.2	11.8	3.6	2.0	0.5			
2	17.1	16.4	18.6	16.5	7.6	4.8	2.6	1.8	0.9	
3	13.3	10.6	13.7	11.8	7.6	8.4	2.1	1.8	0.9	
4	6.6	7.9	13.7	13.5	13.9	7.6	6.7	6.1	4.9	0.5
5	6.2	3.7	11.8	11.8	13.5	12.1	10.3	6.7	4.4	2.0
6	1.9	4.8	8.1	5.9	7.6	12.1	7.7	4.9	4.4	4.0
7	0.9	4.2	4.3	7.0	6.3	11.3	9.8	7.3	3.5	7.4
8	1.4	0.0	3.7	4.1	7.2	5.6	7.7	9.8	8.0	6.9
9		0.5	2.5	4.7	7.6	5.2	9.3	8.5	10.7	6.9
10		1.0	1.2	1.2	7.2	7.6	5.2	11.0	6.2	7.9
11		1.0	0.6	1.8	2.7	3.6	7.2	9.8	12.9	9.4
12			0.6	2.3	4.5	7.2	8.2	7.3	5.8	8.9
13			0.6	1.8	2.2	4.0	6.7	9.1	7.1	9.9
14			1.9	1.8	3.6	2.8	4.6	4.9	5.8	9.4
15			0.6		1.3	1.6	3.6	6.7	8.9	10.9
16					1.3	1.6	2.1	2.4	4.9	5.0
17					1.3	1.6	3.6	1.8	7.1	7.9
18						0.4	0.5		1.8	2.2
19							1.5		1.8	1.0
Number tested	211	189	161	170	223	249	194	164	225	202
Median	1.916	2.016	3.977	4.391	6.382	7.232	9.277	10.277	11.465	12.555

TABLE 64

PER CENT OF EACH SEX IN EACH GRADE CORRECTLY ANSWERING EACH
NUMBER OF QUESTIONS IN CHARACTER SCALE B

Grade	4		5		6		7		8	
Sex	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.
0	25.3	27.7	5.6	4.1	2.2	1.2				
1	32.9	28.3	9.9	12.3	5.8	3.2	1.6	1.2		0.5
2	23.0	19.6	21.1	15.8	11.6	6.4	4.1	0.6	1.3	0.5
3	8.0	7.6	18.0	14.0	12.9	9.2	4.1	8.5	2.7	0.5
4	5.6	7.1	10.6	14.0	10.7	8.8	9.8	6.1	7.1	1.5
5	1.9	3.8	15.5	9.4	11.6	12.9	11.4	6.7	4.9	2.0
6	0.5	1.6	5.0	8.8	10.3	7.6	7.7	9.2	8.0	6.5
7	2.3	1.1	5.0	8.2	4.0	10.5	6.7	7.3	7.1	8.0
8	0.0	0.5	2.5	3.5	8.0	12.1	6.7	9.2	8.4	7.4
9	0.5	0.5	1.2	2.3	5.8	9.2	7.7	5.5	11.6	12.4
10		1.1	1.2	2.9	3.6	5.2	6.7	14.6	6.7	6.5
11		1.1	1.2	2.3	3.6	4.0	6.7	7.9	7.6	10.9
12			0.6	1.8	4.5	3.2	7.2	5.5	8.0	11.4
13			1.2	0.6	2.7	3.6	3.6	6.1	7.1	10.4
14			0.6		1.3	0.4	4.1	7.3	5.8	7.4
15			0.6		0.4	1.6	6.7	0.6	6.2	8.0
16					0.9	0.0	2.6	2.4	5.3	3.5
17						0.8	2.1	1.2	2.2	2.5
18							0.5			
19										
Number tested	213	184	161	171	224	249	194	164	225	201
Median	1.750	1.788	3.741	4.270	5.577	7.057	8.692	9.222	9.904	11.385

TABLE 65

PER CENT OF EACH SEX IN EACH GRADE CORRECTLY ANSWERING EACH
NUMBER OF QUESTIONS IN CHARACTER SCALE L

Grade	4		5		6		7		8	
Sex	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.
0	39.4	46.2	18.5	19.5	9.0	5.4	3.6	3.1	0.9	
1	34.3	25.8	22.8	23.7	14.9	10.7	9.9	3.7	3.1	2.5
2	16.9	15.6	24.7	13.6	12.2	9.5	13.5	8.6	5.0	5.9
3	6.1	5.9	12.4	11.2	15.3	12.3	14.1	11.8	10.4	4.9
4	0.9	4.3	6.2	11.8	15.3	11.9	9.3	8.6	11.8	7.4
5	1.4	2.2	6.8	8.9	8.6	14.0	9.3	8.0	11.8	4.4
6	0.5		4.3	3.5	8.1	9.9	10.4	9.2	6.8	8.9
7	0.5		0.6	3.5	8.6	10.3	9.3	8.0	11.3	12.4
8			1.8	1.8	4.1	4.1	8.9	11.8	9.5	13.4
9			1.2	0.0	1.3	3.7	5.9	11.2	11.8	10.4
10			0.0	1.2	1.3	4.5	5.9	9.2	6.3	16.8
11			0.6	0.6	1.3	1.6		3.1	5.9	8.9
12				0.6		1.6		3.7	4.5	4.0
13						0.0			0.9	
14						0.4				
Number tested	213	186	162	169	222	243	192	162	221	202
Median	1.308	1.145	2.350	2.500	3.911	5.014	4.944	6.666	7.020	8.258

TABLE 66

GRADE MEDIANS—GIRLS

Scale	Information A	Information B	Thought A	Thought B	Character A	Character B	Character L
Grade 4	4.367	3.944	2.289	1.648	1.916	1.750	1.308
Grade 5	7.637	6.672	4.119	4.391	3.977	3.741	2.350
Grade 6	10.348	10.021	8.107	8.588	6.382	5.577	3.911
Grade 7	10.400	10.928	12.346	11.654	9.277	8.692	4.944
Grade 8	13.934	15.077	15.324	17.277	11.465	9.904	7.020

TABLE 67

GRADE MEDIANS—BOYS

Scale	Information A	Information B	Thought A	Thought B	Character A	Character B	Character L
Grade 4	5.591	5.696	2.766	2.904	2.016	1.788	1.145
Grade 5	9.985	9.271	6.410	5.895	4.391	4.270	2.500
Grade 6	13.638	13.524	12.863	12.468	7.232	7.057	5.014
Grade 7	15.210	16.333	16.131	15.766	10.277	9.222	6.666
Grade 8	17.650	18.695	19.881	20.062	12.555	11.385	8.258

All the medians show an advance from each grade to the next higher grade, the smallest advance being for the girls of the sixth grade in Information Scales A and B. All the medians for the boys, with the exception of that of Character Scale L in Grade 4, are higher in all the scales than the medians for the girls.

VITA

MARVIN JAMES VAN WAGENEN, born at Ohioville, New York, November 18, 1884.

ACADEMIC TRAINING: Graduated from State Normal School at New Paltz, N. Y., 1906. Student at Eastman Business College, Poughkeepsie, N. Y., 1907-08. Student at Rutgers College, New Brunswick, N. J., 1909-10. Student at Teachers College, Columbia University, 1910-12, 1915-17. B. S. from Teachers College, Columbia University, 1911. A. M. from Teachers College, Columbia University, 1912.

PROFESSIONAL EXPERIENCE: Principal of public school at Pine Bush, N. Y., 1906-07. Secretary and instructor in Rutgers Preparatory School, New Brunswick, N. J., 1908-10. Instructor in education and psychology, Waynesburg College, 1912-13. Director, Secretarial Department, Scudder School for Girls, New York City, 1913-14. Instructor in psychology, Ohio State University, 1914-15. Assistant-professor of educational psychology, University of Minnesota, 1917-

(c) Who laid the first successful Atlantic cable?

(f) Who was the leader of the Federalist Party?

(i) Who secured adoption of the Missouri Compromise?

(l) Who was the Chief Justice of the Supreme Court when the Dred Scott decision was rendered?

states in the order in which they were admitted, putting a "1" before the first one admitted, and one admitted, and so on until you have last one admitted.

ern states were in favor of between 1840

oppression of abolition petitions in Congress.

ornia as a state.

as.

31 33. What two possible European ventures were

32 34. In front of each of the things given below

War with I

Spanish Ar

Purchase o

Assertion o

Beginning

Passage of

Killing the

VAN WAGENEN AMERICAN HISTORY SCALES
INFORMATION SCALE A

Name..... Sex..... Grade..... School.....
When was your last birthday?..... How old were you?..... Date.....

1 1. What people did Columbus find in America?	2 2. Name any American general.	3 3. In what did the Indians live?
4 4. Who was President of the United States during the Civil War?	6 5. By what people was our Thanksgiving Day custom started?	7 6. With what country did the United States have war in 1898?
5 7. Name any man besides Columbus who made early explorations in America.	9 8. In honor of what event do we celebrate the Fourth of July?	8 9. What were the two chief occupations of the Indian men?
12 10. Arrange these events in the order in which they occurred by putting a "1" before the event that occurred first, a "2" before the event that occurred second, and so on until you have put a "5" before the event that occurred last. Struggle between the French and the English for control in America. Rise and growth of the United States as a nation. Discovery of America. Settlement of America by European nations. Struggle of the American colonies against European control.		
15 11. In what war was the battle of Gettysburg fought? The battle of Trenton? The battle of Lake Erie?	11 12. What was Henry Hudson looking for when he sailed up the Hudson river? 14 13. Who was President of the United States when Louisiana was purchased?	16 14. What were the first four European countries to make settlements in America?
18 15. Who was the British general in each of these battles: Battle of Saratoga? Battle of Yorktown?	10 16. During what war did iron war vessels first come into use? 13 17. What group of Indian tribes lived in the western part of New York State?	20 18. What important means of communication were invented and put into use between 1835 and 1845? Between 1870 and 1880? Between 1895 and 1910?

17 19. Which one of these things were most of the white people in America doing before the Revolutionary War: Working in stores, working in factories, hunting and fishing, working on farms, or fighting the Indians?	27 20. What were the three principal ways besides walking in which the American colonists travelled from one place to another before 1775?	22 21. What public improvement was under construction during each of the following periods: 1806 to 1814? 1817 to 1825? 1904 to 1914?
21 22. What were the first two important American inventions?	25 23. What was the great problem which Lincoln had to face when he became President?	30 24. What important commissions were created by the United States at each of these dates: 1883? 1887?
23 25. Arrange these events in the order in which they occurred by putting a "1" before the event that occurred first, a "2" before the event that occurred second, and so on until you have put a "7" before the event that occurred last. Purchase of the Philippine Islands. Missouri Compromise. Introduction of secret voting or the Australian ballot system into the United States. Annexation of Texas. Building of the Panama Canal. Passage of the first protective tariff act. Secession of the Southern states.		
24 26. Arrange these events in the order in which they occurred by putting a "1" before the event that occurred first, a "2" before the event that occurred second, and so on until you have put a "7" before the event that occurred last. Invention of the telephone. Completion of the first railroad to the Pacific coast. Invention of the steamboat. Laying of the first Atlantic cable. Invention of the telegraph. Completion of the first railroad in the United States. Opening of the Erie Canal.		

was the Monroe Doctrine set forth to forestall?

Write the name of the President during whose administration it took place.

Mexico.

American War.

of Florida.

of the Monroe Doctrine in the Venezuelan dispute.

of the construction of the Panama Canal.

the Pendleton Civil Service Act.

United States Bank.

re the event that occurred first, a "2"
vent that occurred last.

tor, a statesman, a President, a general,

e men were in favor of a strong central
heck mark ✓ before their names.

29 30. Some of the following words, phrases and
1812—Andrew Jackson" belong together. After
with it, just as "War of 1812" is written after "Y
belongs with it, just as *Andrew Jackson* is writte

These are the words and phrases that go in
not citizens, Missouri, Secession, Monroe Doctrine,

These are the names that go in the last row of
Grover Cleveland, John C. Calhoun, Roger B.

Battle of New Orleans.....

Compromise

Popular sovereignty

Nullification

Confederacy

Venezuelan dispute

Northwest Territory

Dred Scott decision.....

Admission of Texas.....

31 33. Against what movement was the rise o

28 34. Of these present-day social problems, wh
a check mark ✓ before them.

.....Relation between capital and labor.

.....Protective tariff question.

.....Demand for a shorter working day.

.....Regulation and control of industrial corporat

.....Maintaining neutrality during a European wa

.....Railway rate legislation.

.....Extension of the suffrage to another group c

VAN WAGENEN AMERICAN HISTORY SCALES

INFORMATION SCALE B

Name Sex Grade School
When was your last birthday? How old were you? Date

1 1. Who discovered the Hudson River?	2 2. Who was the first President of the United States?	5 3. How did the Spanish explorers treat the Indians?
3 4. Name any general who fought in the Civil War.	4 5. What European country sent soldiers and ships to help the American colonies in the Revolutionary War?	6 6. Name any one of the battles of the Revolutionary War.
7 7. Name two weapons which the Indians used in fighting before the white men came to America.	9 8. With what country did the United States have a war in 1812?	10 10. Name any Frenchman who made early explorations in North America.
8 11. Name two purchases of land that have been made by the United States.	14 12. By what two nations was the Mississippi valley first explored?	12 13. Which of these things: settling, nation-making, or exploring—was chiefly being done in America between 1500 and 1600?
15 14. From what European country did the people come who settled along the Hudson River?	11 15. Which of these first came into use in America: the railroad, the stage-coach, or the steamboat?	Between 1600 and 1700?
At Philadelphia?	Which one was the last to come into use?	Between 1775 and 1800?
Along the St. Lawrence River?		
At Plymouth?		

13 16. Arrange these conditions in the order in which they were to be found in the growth of America. Put a "1" before the condition that came first, a "2" before the condition that came second, and so on until you have put a "5" before the condition that came last.

-The raising of unrotated crops of corn and wheat in thinly settled farming communities.
-The building of factories and the rise of industrial cities.
-The roving or wandering of the Indian hunter and Indian warrior.
-The more intensive cultivation in more thickly peopled farm settlements.
-The coming of the European explorer, conqueror, and trader.

20 17. Name two American generals who fought in the Revolutionary War.	16 18. What important agricultural invention was made between 1825 and 1835?	21 20. What important invention connected with the clothing industry was made during each of the following periods: 1790 to 1800?
Name one more American general who fought in the Revolutionary War.	19 19. What kind of power was being applied to manufacturing and transportation between 1800 and 1850?	1840 to 1850?
23 21. People of what religious faith settled in the Maryland Colony?	18 22. In what two ways did the Indians get from one place to another?	27 24. What new means of transportation came into use in the United States during each of the following periods: 1805 to 1815?
In the Massachusetts Bay Colony?	30 23. What important internal political question arose out of the conditions following the War of 1812?	1830 to 1840?
In the Pennsylvania Colony?		1890 to 1900?

17 25. Arrange these events in the order in which they occurred by putting a "1" before the event that occurred first, a "2" before the event that occurred second, and so on until you have put a "7" before the event that occurred last.

-Settlement of the Massachusetts Bay Colony.
-Adoption of the United States Constitution.
-Settlement of Jamestown.
-Battle of Yorktown.
-Capture of New Amsterdam by the English.
-Declaration of Independence.
-Fall of Quebec.

names belong together in the same way that "Battle of New Orleans—War of 1812." In the last row of blank spaces write the name that belongs with the first row of blank spaces: South Carolina, War with Mexico, Black people, Kansas-Nebraska Act, Ordinance of 1787.

blank spaces: James K. Polk, Jefferson Davis, Stephen A. Douglas, Henry Clay, John C. Calhoun, George Rogers Clarke.

War of 1812..... Andrew Jackson.....

.....

.....

.....

.....

.....

.....

.....

.....

of the present Republican party a protest?

which ones were problems of wide concern in the United States before 1830? Put

ions.

ar.

of people.

evolutionary War many New England ves-
ted States from Ireland during each year
49.

51,500 came in 1842,
26,000 came in 1843,
33,500 came in 1844,
45,000 came in 1845,
52,000 came in 1846,
66,000 came in 1847,
113,000 came in 1848,
60,000 came in 1849.

who came in 1852 was 62,000 less than
1855 the numbers again declined sharply.
a severe famine in Ireland.

ements indicate?

table shows the number of immigrants
sailors were out of work. The men in the
ere ill paid and the hardships were many.
were many British merchant vessels trad-
es and but a small British navy to protect

ect the American sailors soon to be doing?

Civil War there were compara-
and weaving of cloth in the South.
from the North and the Northern
gland. Besides they had little ma-
naking machinery for spinning and

you think the people of the South ob-
n, for clothing?

20. In the rural communities in 1850 the child
portunity to learn many things in the home why
not learn in the city homes. When a tax was ran
erty the people in the rural communities, who ow
for the most part, had to pay a larger proportion
the workingmen of the cities.

24 (a) When in 1849 and in 1850 the bill
schools was submitted to a vote of the people of Ne
what way would you expect the workingmen of the

Why?

26 (b) What way would you expect the farm
communities to vote?

Why?

25 26. Arrange these events in the order in which they occurred by putting a "1" before the event that occurred first, a "2" before the event that occurred second, and so on until you have put a "7" before the event that occurred last.

-Purchase of Alaska.
-Discovery of gold in California.
-Purchase of Louisiana.
-Settlement of the Venezuelan dispute with England by arbitration.
-Issuing of the Emancipation Proclamation.
-Missouri Compromise.
-Dred Scott decision.

24 27. After the name of each of these men write whether he was a preacher, an inventor, a statesman, a President, a general, or a Supreme Court Judge.

- | | |
|--------------------------|--------------------------|
| John Marshall | Daniel Webster |
| George G. Meade | Roger B. Taney |
| Cyrus M. McCormick | Alexander Hamilton |
| Jonathan Edwards | John Ericsson |
| Grover Cleveland | William T. Sherman |
| Elias Howe, Jr. | James K. Polk |

22 28. In what war was each of these battles fought?

- Battle of Cowpens?
- Battle of Mobile?
- Battle of Manila?
- Battle of Buena Vista?
- Battle of Nashville?
- Battle of Vicksburg?
- Battle of Lake Erie?

26 29. Which of these men were in favor of a strong central government? Put a check mark ✓ before their names.

-John Adams
-Alexander Hamilton
-John C. Calhoun
-Benjamin Franklin
-Abraham Lincoln
-Thomas Jefferson
-George Washington
-Jefferson Davis
-Daniel Webster

29 30. Some of the following words, phrases and names belong together in the same way that "Battle of New Orleans—War of 1812—Andrew Jackson" belong together. After each name or phrase in the first row write the name or phrase that belongs with it, just as "War of 1812" is written after "Battle of New Orleans." In the last row of blank spaces write the name that belongs with it, just as *Andrew Jackson* is written after *War of 1812*.

These are the words and phrases that go in the first row of blank spaces: **South Carolina, War with Mexico, Black people not citizens, Missouri, Secession, Monroe Doctrine, Kansas-Nebraska Act, Ordinance of 1787.**

These are the names that go in the last row of blank spaces: **James K. Polk, Jefferson Davis, Stephen A. Douglas, Henry Clay, Grover Cleveland, John C. Calhoun, Roger B. Taney, George Rogers Clarke.**

- | | | |
|----------------------------|--------------------------|-----------------------------|
| Battle of New Orleans..... | <i>War of 1812</i> | <i>Andrew Jackson</i> |
| Compromise ..... | ..... | ..... |
| Popular sovereignty ..... | ..... | ..... |
| Nullification ..... | ..... | ..... |
| Confederacy ..... | ..... | ..... |
| Venezuelan dispute ..... | ..... | ..... |
| Northwest Territory ..... | ..... | ..... |
| Dred Scott decision..... | ..... | ..... |
| Admission of Texas..... | ..... | ..... |

31 33. Against what movement was the rise of the present Republican party a protest?

28 34. Of these present-day social problems, which ones were problems of wide concern in the United States before 1830? Put a check mark ✓ before them.

-Relation between capital and labor.
-Protective tariff question.
-Demand for a shorter working day.
-Regulation and control of industrial corporations.
-Maintaining neutrality during a European war.
-Railway rate legislation.
-Extension of the suffrage to another group of people.

VAN WAGENEN AMERICAN HISTORY SCALES

THOUGHT SCALE A

Name _____ Sex _____ Grade _____ School _____

When was your last birthday? _____ How old were you? _____ Date _____

2 1. Before the steamboats were made people used to travel on the ocean in sail boats. Steamboats were not made until a long, long time after the European people came to make their homes in America.

How do you think these early European settlers came to America?

1 2. A little before the year 1500 the people of Europe were anxious to find a new way to get to India. Some people thought that India might be reached by sailing westward across the Atlantic Ocean. Columbus was one of these people. It was at this time that Columbus found America.

What do you think Columbus was looking for when he found America?

3 3. A hundred years ago it took a letter several days to go from New York to Boston. Today it takes only a few hours.

Why do you think it took letters so much longer to go from New York to Boston 100 years ago than it does today?

5 4. The Northmen probably came to America as early as the year 1000, nearly 500 years before Columbus and the Cabots sailed from Europe. There is no record of any one else having come to America before the year 1000.

By whom do you think America was first discovered?

5. In 1793, Eli Whitney invented the cotton gin, a machine for separating the cotton seed from the fiber. By the use of this machine one slave could clean fifty times as much cotton in a day as with the old machines or by hand.

12 (a) What effect would this invention have upon the cost of raising raw cotton?

6 (b) What effect would it have upon the amount of cotton raised?

4 (c) What indirect effect would it have upon the price of cotton goods?

14 6. In 1800, Spain gave Louisiana up to France. The United States, fearing that France might set up a colony and control the Mississippi River, was anxious to get Louisiana. In 1803, Napoleon of France feared that Great Britain was about to seize his American territory.

What would you expect Napoleon to do?

8 7. In 1829-30, it took over 160 hours of work to raise 50 bushels of wheat; in 1895-96, it took less than seven and a half hours of work to raise the same amount.

How can you account for the difference?

16 8. After the close of the Civil War, coal and iron deposits were opened up in various parts of the South.

What two occupations would you expect to find growing up as a result of using these natural resources?

10. In 1750, Peter Kalm, a Swedish traveler in America, wrote a book from which the following passage is taken.

"When a person had bought a piece of land, which perhaps had never been plowed since the creation he cut down part of the wood, tore up the roots, plowed the ground, sowed corn on it and for the first time got a plentiful crop. But the same land being tilled for several years successively, without being fertilized, it at last must of course lose its fertility. Its possessor therefore leaves it fallow and proceeds to another part of his ground, which he treats in the same manner. Thus he goes on till he has changed a great part of his possessions into cornfields, and by that means deprives the ground of its fertility.

"He then returns to the first field, which now is pretty well recovered; this he again tills as long as it will afford him a good crop, but when its fertility is exhausted, he leaves it fallow again, and proceeds to the rest as before. But by leaving the land fallow for several years together, a great quantity of weeds spring up in it, and get such strength that it requires a considerable time to extirpate them. From hence it likewise comes, that the corn is always so much mixed with weeds."

29 (a) What does this passage from Peter Kalm suggest about the proportion of land under cultivation in the colonies in 1750?

9 (b) What does it suggest about the cost of land in 1750?

17 (c) What does it suggest about the state of or the extent of knowledge about agriculture among the American colonists?

10 11. Previous to the Civil War a large part of the Southern cotton crop was exported to England.

(a) What was evidently one of the chief occupations of England?

19 (b) What effect would the blockading of the Southern ports by the North during the Civil War have upon this occupation?

7 12. It was not until about 1887 that electric power began to come into use. After 1887 there was a great increase in street railway building. In the cities of Massachusetts there were three times as many miles of street railways in 1897 as in 1887.

What was evidently one of the things to which this sudden rapid increase in street railway building was due?

13 13. In 1660, the English Parliament passed the restrictions that certain colonial products, called enumerated articles, including sugar, tobacco, dyewoods and indigo, should be shipped from America only to England or to other English colonies.

In 1663, an act of Parliament provided that all goods brought to the colonies must come from or through English ports.

What do you think was the purpose of the English in thus seeking to regulate the trade of the colonies?

15 14. During the years before the Civil War cotton growing had been found more profitable in the South than manufacturing. It was less profitable to manufacture the raw cotton than to exchange it with the Northern states and especially with England for the various kinds of manufactured articles which were needed.

In order to take advantage of this situation, what would be one of the first things which the North would attempt to do at the outbreak of the Civil War?

ren had an op-
rich they could
ised upon prop-
ned their farms
of the tax than

for free public
New York State,
e cities to vote?

20 21. The Puritans said that they came to America to get religious freedom. Presbyterians, Baptists, and Quakers of the Massachusetts Bay Colony were fined or imprisoned or banished for their religious dissent. Roger Williams was banished by the General Court of the Massachusetts Bay Colony because he believed the governments of the church and state should be separate, and denounced the Puritan system of civil laws, compelling church attendance and the observance of the Sabbath, and taxing people for the support of the church.

What sort of religious freedom do you think the Puritans really came to America for?

ers in the rural

27 22. At the close of the Revolutionary War many of the people in America were driven from their homes by official acts of a new state government, their property was taken and they were deprived of the right to vote or to hold public offices.

How can you account for such action?

in 1790 there were about 3,929,200 people in the United States. We do not know at all accurately how many people there were in the United States at any previous year.

We do not know how many people there were in the United States at any previous year.

more and Boston had each a population of 69,000 foreigners in Baltimore as in Boston. New Orleans and Milwaukee were 90,000 in 1900, but Milwaukee had 90,000 in New Orleans. Atlanta with a population of only about 3,000 foreign-born people in 1900, with a similar population had 47,000.

These figures, which may be considered as typical, show the population of the Southern cities as compared with the Northern cities?

The tenth amendments to the Constitution state that the states shall exercise only those powers given to it and that "all other powers are reserved to the states."

Why did the states ratify the Constitution only upon being given this provision would be added to it. Why did the states have been afraid?

The agreement of peace was signed by the representatives of Great Britain and the United States at the Convention of the Netherlands on Christmas Eve, 1814, the news of which did not reach the United States until after the Battle of New Orleans had been fought on January 8, 1815, with a loss of 2,000 men to the British.

Why did it take so long in getting to the United States?

27 21. In 1614 or 1615, Captain Argall of the Jamestown colony on finding Hendrick Christiansen with a colony of Dutch on the Hudson River ordered him under penalty of death to haul down the flag of the Netherlands and run up the flag of the English. The order was promptly obeyed.

In 1635, when the English colony at Jamestown was ten times as large as in 1615, a party of Virginians on the Delaware River and took possession of an old blockhouse called Fort Nassau which the Dutch had abandoned. From New Amsterdam speedily took them prisoners and sent them back to Virginia, with a polite warning not to do so again.

What had evidently been happening between 1614 and 1635?

15. In 1649, Oliver Cromwell became the ruler of England, the King, Charles I, having been driven from the throne and put to death. The Royalists, who had favored the king, belonged to the Church of England. During the next few years a large number of people left England to settle in America.

22 (a) Who do you think these new settlers were?

28 (b) To what colony in America would these people be most likely to go?

16. The Indian hatchets were made of stone, sharpened at one end and with a notch all round the thick end. The handle consisted of a stick, split at one end. In this split the stone was placed so that the two halves of the stick came into the notches of the stone. The two split ends were then tied together.

When the Indians wanted to cut a tree down they set fire to a great quantity of wood at the roots of the tree, wetting the trunk of the tree so that the fire would not burn the wood too far up. To hollow out the trunk of a tree for a canoe, they first laid dry branches along one side of the trunk, and set fire to them. As fast as they were burned they were replaced by others. The rest of the trunk was kept wet to keep the fire from spreading too far. The stone hatchets or sharp flints or shells were then used to scrape off the burnt part of the wood.

21 (a) What does the above passage suggest about the Indians' knowledge of the use of iron?

21 (b) What does it suggest about the efficiency or goodness of the Indians' tools?

23 18. During the Revolutionary War many New England vessels came to the United States from Ireland during each year between 1842 and 1849.

51,500	came in 1842,
26,000	came in 1843,
33,500	came in 1844,
45,000	came in 1845,
52,000	came in 1846,
106,000	came in 1847,
113,000	came in 1848,
160,000	came in 1849.

The number of Irish who came in 1852 was 62,000 less than in 1851. In 1854 and 1855 the numbers again declined sharply. In 1845 there was a severe famine in Ireland.

What do these statements indicate?

25 17. The following table shows the number of immigrants, sailors and thousands of sailors were out of work. The men in the Revolutionary army were ill paid and the hardships were many. At the same time there were many British merchant vessels trading with the West Indies and but a small British navy to protect them.

What would you expect the American sailors soon to be doing?

28 19. At the outbreak of the Civil War there were comparatively few factories for spinning and weaving of cloth in the South. They could no longer get cloth from the North and the Northern blockade shut it out from England. Besides they had little machinery and no means of making machinery for spinning and weaving.

In such a crisis how do you think the people of the South obtained the cloth necessary for clothing?

20. In the rural communities in 1850 the children had an opportunity to learn many things in the home which they could not learn in the city homes. When a tax was raised upon property the people in the rural communities, who owned their farms for the most part, had to pay a larger proportion of the tax than the workingmen of the cities.

24 (a) When in 1849 and in 1850 the bill for free public schools was submitted to a vote of the people of New York State, what way would you expect the workingmen of the cities to vote?

Why?

26 (b) What way would you expect the farmers in the rural communities to vote?

Why?

20 21. The Puritans said that they came to America to get religious freedom. Presbyterians, Baptists, and Quakers of the Massachusetts Bay Colony were fined or imprisoned or banished for their religious dissent. Roger Williams was banished by the General Court of the Massachusetts Bay Colony because he believed the governments of the church and state should be separate, and denounced the Puritan system of civil laws, compelling church attendance and the observance of the Sabbath, and taxing people for the support of the church.

What sort of religious freedom do you think the Puritans really came to America for?

27 22. At the close of the Revolutionary War many of the people in America were driven from their homes by official acts of a new state government, their property was taken and they were deprived of the right to vote or to hold public offices.

How can you account for such action?

VAN WAGENEN AMERICAN HISTORY SCALES

THOUGHT SCALE B

Name _____ Sex _____ Grade _____ School _____
When was your last birthday? _____ How old were you? _____ Date _____

1. During the Revolutionary War, France had helped the colonies with both men and ships. Ten years after the close of the Revolutionary War France was again at war with England. What would the French people think the United States ought to do?

2. In 1754, the English claimed the Ohio valley. The French, however, had built Fort Duquesne on the Ohio River, near where Pittsburgh now stands. George Washington was sent by the English to demand that the fort be given up to the English.

2 (a) What reply would you expect the French to make to Washington?

3 (b) What would you expect the English to do next?

3. Before 1825 the freight rates from the West to New York City were thirty-two dollars a ton by wagon for each one hundred miles, wagons being the only means of inland transportation. The freight rates on the Erie Canal, which was opened in 1825, were one dollar a ton for each one hundred miles.

18 (a) What effect would you expect the opening of the Erie Canal to have had upon the amount of freight carried between the West and the East?

19 (b) What effect would you expect the opening of the Erie Canal to have had upon the value of the land near the Canal?

11 (c) What effect would you expect the opening of the Erie Canal to have had upon the settlement of the West?

4. During the winter of 1609-10 in the Jamestown Colony, rats, mice, and snakes were relished, and fungi of various sorts were eaten. It is even reported that an Indian who had been slain in an assault upon the stockade was eaten by the poorer men.

What do these statements show?

5. The battle of Lundy's Lane was fought in the War of 1812; the battle of Petersburg was fought in the Civil War; the battle of Monmouth was fought in the Revolutionary War. Arrange the three battles in the order in which they were fought.

(a)

(b)

(c)

6. In 1793, Eli Whitney invented the cotton gin, a machine for separating the seed from the cotton fiber. By the use of this machine a slave could clean fifty times as much cotton in a day as with the old machines or by hand.

In 1790, 200,000 pounds of raw cotton were exported from the United States. In 1800, nearly 20,000,000 pounds of cotton were sent out of the United States.

What effect must the invention of the cotton gin have had upon slavery in the United States?

7 Between 1860 and 1870 the number of employees in American factories increased more than one half.
13 (a) What does this fact suggest about the amount of capital invested in manufacturing?

4 (b) What does it suggest about the amount of goods manufactured?

8. In 1810, nine tenths of our foreign trade (980,000 tons) was carried in American vessels. The War of 1812-14 stopped the importation of foreign-made goods.

In what industry would you expect American capital soon to have become invested?

9. During the year 1824, 8,000 immigrants came to America. During the year 1844, 78,000 immigrants came. During the year 1854, 427,000 immigrants came.

What do these statements show about immigration?

10. In 1850, the principal occupation of Virginia was agriculture. In Massachusetts at that time there were as many people engaged in manufacturing as in agriculture.

(a) In which state would you expect to find the more cities at that time?

(b) In which state would you expect to find more foreign-born people?

11. At the beginning of the 19th century voting and office holding in the United States were for the most part restricted to property holders. During the next thirty years with the growth of manufacturing, the people who worked for wages, but owned little or no property, became a larger part of the population. These people wanted shorter hours of work and better educational opportunities for their children.

In order to get these things what would you expect the laboring people to demand?

12. After 1820 there was a large increase in the manufacturing industry in the United States.

In 1820 there were 5,000 pupils on the rolls of the public schools of Philadelphia; in 1821 there were only 3,000; in 1822 there were only 2,550; in 1823 there were less than 2,500.

15 (a) Where do you think the rest of the children would have been found?

21 (b) Why could not this same thing happen in our cities today?

13. Previous to the War of 1776 an oak vessel could be built at Gloucester or Salem in Massachusetts for twenty-four dollars per ton. Nowhere in England, France or Holland could a ship be made of oak for less than fifty dollars per ton.

6 (a) Under such conditions what industry would get a firm hold in the American colonies?

20 (b) During the Revolutionary War the English navy blockaded the American coast. What effect must this blockade have had upon that industry?

nestown colony
of Dutch traders
of a broadside
up the English

own was several
s went up the
ockhouse there
ed; but a force
and sent them
o any more.

15 and 1635?

30 22. Our inland cities began to arise as soon as it was possible to build many factories in the same locality. Before this could happen an abundant supply of fuel was necessary. Factories were already in operation at the water falls in the New England streams. The groups of factories and the inland cities, however, did not appear until long after the discovery of soft coal and its usefulness.

Why was not the new fuel immediately put into use everywhere?

... was remarkable for long, prosy, interminable
house of Representatives. On one occasion,
the whole, after having wearied the patience
than usual, he said to Mr. Clay, who sat
ice, while he was pausing for a new start,
esent generation; I speak for posterity."—
lay, "and you seem resolved to continue
ence arrives."

he three of the following words which you
his action of Henry Clay.

- | | | |
|-----------|-------------|--------------|
| sarcastic | generous | cautious |
| abusive | sympathetic | ready-witted |

the Northwestern Indians had been ravag-
ments but the United States government
on for a determined attempt to put an end
last an army was sent out under St. Clair
op to the Indian attacks. Most of the re-
streets and prisons of the seaboard cities,
salary of two dollars a month. These men
mpaign against peculiarly formidable foes
ired the rudiments of a soldier's training,
understood what woodcraft meant. The
e utterly without training, and had no time
r men.

the Northwest the little army had become
as the result of desertions. They were
ere a conflict might be expected yet St.
wo regular regiments in pursuit of a band
os were camped on a narrow rise of ground.
woods lay in frozen silence. In front, the
cross a creek, about a quarter of a mile
troops. Parties of Indians were seen in the
they skulked around the lines so that the
ed at them. St. Clair had been warned
are of a surprise attack. Neither St. Clair
adequate measures to ward off a sudden
ise, just as the men were dismissed from
It was made upon the militia, who lay un-
eek. The unexpectedness and fury of the
and the appalling whoops and yells of the
hrew the militia into disorder. After
they broke and fled in wild panic to
spreading dismay and confusion. St.
allied their men but the struggle ended
little American army.

r the three of the following words which
e action of the men who were responsible
y against the Northwestern Indians.

- | | | | |
|----|---------|------|-----------|
| s | zealous | rash | intrepid |
| ed | capable | firm | undaunted |

17 14. From an incident related by Henry C

"I was travelling, in 1828, through I believ
vania County, in Virginia, on my return to Wa
pany with some young friends. We halted at
kept by an aged gentleman. After a hurried an
old gentleman sat down by me, and without h
but understanding that I was from Kentucky,
had four sons in that state, and that he was
divided in politics, two being for Adams, and
He wished they were all for Jackson. 'Why?' I
cause,' he said, 'that fellow Clay, and Adams, h
son out of the Presidency.'—'Have you ever se
my old friend,' said I, 'of that?'—'No,' he repl
wish to see none.'—'But,' I observed, looking at
steadily in the face, 'suppose Mr. Clay were to
assure you, upon his honor, that it was all a vile
a word of truth in it, would you believe him?'—
old gentleman, promptly and emphatically."

Draw a line under the three of the following
think best describe this old gentleman.

- | | | | | |
|-------------|---------|------------|----------|----|
| tolerant | bigoted | fair | generous | na |
| open-minded | daring | prejudiced | liberal | |

14. Among the resolutions adopted by a "General Meeting of Mechanics and Working-Men" of New York City, held in 1829, are found the following: "Resolved, that next to life and liberty, we consider education the greatest blessing bestowed upon mankind. Resolved, that public funds should be appropriated (to a reasonable extent) to the purpose of education upon a regular system that shall insure the opportunity to every individual of obtaining a competent education before he shall have arrived at the age of maturity."

At an adjourned meeting of "Workingmen, Mechanics, and others friendly to their interests," held in Boston in 1830, it was resolved: "that the establishment of a liberal system of education, attainable by all, should be among the first efforts of every law giver who desires the continuance of our national independence."

From these paragraphs what inference would you make about:

29 (a) The extent of public education in 1830?

19 (b) The attitude of the working people of the cities toward public education?

12 15. At the close of the Civil War many of the Southern negroes would not return to work on the plantations for pay, but wanted land of their own. There was also a scarcity of white laborers in the South, and but little capital with which to buy agricultural machinery.

What effect would you expect these conditions to have upon the size of the farms in the South?

24 16. In the Constitutional Convention in 1787, two proposals were made for the choice of a legislative body: one (a) that an equal number of congressmen should be chosen from each state; another (b) that the congressmen should be chosen on the basis of the population of the several states.

Show which proposal you would expect each of these colonies to favor by putting an (a) before each colony that would favor an equal number of congressmen from each state, and a (b) before each colony that would favor the second proposal.

.....Connecticut

.....Virginia

.....Pennsylvania

.....New York

.....Rhode Island

22 17. We know that in 1790 there were about 3,929,200 people living in the United States. We do not know at all accurately how many people there were in the colonies at any previous year after 1650.

Why do we know how many people there were in the United States in 1790, but do not know how many there were in any year before that?

25 18. In 1900, Baltimore and Boston had each a population of about 600,000; but there were 69,000 foreigners in Baltimore as against 197,000 in Boston. New Orleans and Milwaukee were not far apart in total numbers in 1900, but Milwaukee had 90,000 foreigners to 30,000 in New Orleans. Atlanta with a population of nearly 100,000 had only about 3,000 foreign-born people in 1900, while St. Paul with a similar population had 47,000.

What do these figures, which may be considered as typical, show about the population of the Southern cities as compared with the population of the Northern cities?

26 19. The ninth and tenth amendments to the Constitution state clearly that Congress shall exercise only those powers given to it by the Constitution and that "all other powers are reserved to the states."

Some of the states ratified the Constitution only upon being assured that such a provision would be added to it.

Of what must the states have been afraid?

20. Although an agreement of peace was signed by the commissioners of both Great Britain and the United States at the city of Ghent in the Netherlands on Christmas Eve, 1814, the news did not reach America until after the Battle of New Orleans had been won by the Americans on January 8, 1815, with a loss of nearly 2,000 soldiers to the British.

16 (a) Why do you think the news was so long in getting to America?

28 (b) What effect would this victory of the American army have upon the arrangements for peace?

27 21. In 1614 or 1615, Captain Argall of the Jamestown colony on finding Hendrick Christiansen with a colony of Dutch traders on the Hudson River ordered him under penalty of a broadside to haul down the flag of the Netherlands and run up the English flag. The order was promptly obeyed.

In 1635, when the English colony at Jamestown was several times as large as in 1615, a party of Virginians went up the Delaware River and took possession of an old blockhouse there called Fort Nassau which the Dutch had abandoned; but a force from New Amsterdam speedily took them prisoners and sent them back to Virginia, with a polite warning not to do so any more.

What had evidently been happening between 1615 and 1635?

30 22. Our inland cities began to arise as soon as it was possible to build many factories in the same locality. Before this could happen an abundant supply of fuel was necessary. Factories were already in operation at the water falls in the New England streams. The groups of factories and the inland cities, however, did not appear until long after the discovery of soft coal and its usefulness.

Why was not the new fuel immediately put into use everywhere?

VAN WAGENEN AMERICAN HISTORY SCALES
CHARACTER JUDGMENT SCALE A

Name..... Sex..... Grade..... School.....
When was your last birthday?..... How old were you?..... Date.....

2 1. In 1772, there was a frontier wedding. The guests had come from many miles. After a night of rough merriment and dancing the guests lay down to sleep under the roof of their host or in the nearby barns and sheds. When morning came two of their horses were missing. Not doubting that they had strayed away, three of the young men started out to find them. Soon several gunshots were heard and the three young men did not return. Believing that it was a small scalping party of Indians eight or ten more mounted the horses that stood saddled before the house and galloped across the fields in the direction of the firing; while others ran to cut off the enemy's retreat.

Draw a line under the three of the following words which you think best describe the action of these white men.

indifferent cowardly cautious polite brave
courageous spiteful fearful daring timid

1 2. After the British troops were driven from Boston by Washington's clever maneuvers, New York became the scene of war. Here the military situation was most serious. The British numbered 25,000 well-equipped troops, with a large number of cannon, generous stores of ammunition and even ships at their command. The Americans numbered but 14,000 poorly-equipped and ill-fed men. Washington saw that he must have certain news of the enemy; he must know exactly the number of their troops and how they were posted in the defense of New York. He needed a spy,—one who would enter the lines of the British, learn all he could, and return with the information to the commander-in-chief. Then Washington would know the place and time to make an attack.

With the alert eyes and ears of hundreds of enemies about him, the spy rarely escapes detection. If discovered, he is not shot but hanged. When Washington asked for volunteers, Nathan Hale consented to enter the British lines as a schoolmaster who was disgusted with the American cause.

Draw a line under the three of the following words which you think best describe the action of Nathan Hale.

cowardly prudent ignoble fearless daring
treacherous cautious courageous selfish faithless

4 3. Long before the end of President John Quincy Adams's first administration, Mr. Thompson, collector of customs of the Port of New York, was known to be opposed to President Adams and in favor of General Jackson for the next President. President Adam's friends strenuously urged the removal of Thompson; but he refused to comply with their request, though they assured him that if he acted on the policy of retaining his active opponents in office in New York State he would surely lose it at the next election,—as he did. Mr. Adams took the same ground as he did in the case of Mr. McLean, Postmaster General, that every man had a right to exercise and act upon his own opinion, and if officers of the government believed General Jackson a more fit man for President than himself, they were right in supporting him, and so long as they discharged the duties of their office faithfully, he would not remove them.

Draw a line under the three of the following words which you think best describe President Adams as he appears in this incident.

just obstinate irresolute servile resentful
compliant honorable patriotic unfair submissive

11 4. Shortly after taking his seat in the House of Representatives John Quincy Adams began to present petitions for the abolition of slavery. At first these petitions which people sent to Mr. Adams attracted but little notice but as they multiplied the Southern Republicans became aroused. At first they assailed Mr. Adams for presenting them, but finally there was passed what was known as the "gag-rule" which prevented the reception of these petitions by the House of Representatives. During the next few years Mr. Adams put his whole force into breaking down the "gag-rule" and defending the right of petition. On every petition day, in spite of the "gag-rule," he would offer, in constantly increasing numbers, petitions which came to him from all parts of the country for the abolition of slavery. The Southern Representatives came to hate Mr. Adams. In 1837 and again in 1842 the Representatives threatened to expel him from the House, but Mr. Adams stood his ground and ably defended himself. Every year Mr. Adams renewed his motion to strike out the "gag-rule," and forced it to a vote. The majority against his motion kept growing smaller and smaller until in 1844 it was passed, and the right of petition had been won in the American House of Representatives.

Draw a line under the three of the following words which you think best describe this action of Mr. Adams.

ignoble meddlesome courageous reckless foolhardy
crabbed persistent spiteful undaunted peevish

3 5. A chief of the Minnesota tribe heard that his little son had been captured by the Foxes, another Indian tribe. Knowing that the child would be burned at the stake, the father hastened to the enemy's camp. Coming up with the Foxes, the chief said, "My little son, whom you are about to burn with fire, has seen but few winters; his tender feet have never trod the warpath. He has never injured you. But the hairs of my head are white with many winters, and over the graves of my relatives I have hung many scalps taken from the heads of the Foxes. My death is worth something to you. Let me, therefore, take the place of my child, that he may return to his people." The little boy was set free and the father died in his stead.

Draw a line under the three of the following words which you think best describe the action of the Indian father.

cruel timid cowardly mean self-sacrificing
crafty heroic selfish noble treacherous

6. Fletcher, who was the Royal Governor of New York from 1692 to 1698, was very strict in religious observances, was fond of luxury, and had extravagant habits. Always in want of money, he was in the habit of receiving gifts from the different pirate ships. He allowed the wealthy merchants to disregard the laws of trade. He granted the public lands to the ministry, the church, and a few rich families, but repressed the freemen of small means.

The Earl of Bellemont, who was sent to New York in 1698, enforced the laws of trade, put down smuggling, checked the unscrupulous greed of the great merchants, hunted and hung the pirates, and forfeited such of the grants of public land as he considered to have been illegally secured.

7 (a) Draw a line under the three of the following words which you think best describe the action of Governor Fletcher.

faithful false honest unscrupulous fearless
dishonest resolute gentle revengeful spiteful

5 (b) Draw a line under the three of the following words which you think best describe the action of the Earl of Bellemont.

timid selfish honest unscrupulous fearless
cowardly spiteful resolute revengeful dishonest

7. In 1724 the Massachusetts Colony determined to put a stop to the Indian ravages. One of their armies of about eighty men under Moulton cautiously advanced through a forest to the open village of Norridgewock. Not an Indian was stirring, till at length a warrior came out from one of the huts, saw the English, gave a startled war-whoop, and ran back for his gun. Then all was dismay and confusion. Squaws and children ran screaming for the river, while the warriors, fifty or sixty in number, came to meet the enemy. Moulton ordered his men to reserve their fire until the Indians had emptied their guns. The savages fired wildly and did little or no harm. The English, still keeping their ranks, returned a volley with deadly effect. The Indians gave one more fire, and then ran for the river. Some tried to wade to the farther side, others swam across, while many jumped into their canoes, but could not use them as they had left the paddles in their huts. Moulton and his men followed close, shooting the fugitives in the water or as they climbed the farther bank.

8 (a) Draw a line under the three of the following words which you think best describe the action of the English Colonial soldiers.

frightened resolute excited terrified careless
deliberate wavering timid cowardly cool

12 (b) Draw a line under the three of the following words which you think best describe the action of the Indian warriors.

treacherous brave crafty excited cool
terrified courageous resolute bold irresolute

9 8. General Grant had been very positive in demanding that all officers of the Confederate army should enjoy their liberty. Among those who had been imprisoned by order of the Secretary of War, Edwin M. Stanton, was General Clement C. Clay, an ex-United States Senator from Alabama. He was taken ill in prison with asthma, and his wife came to Washington to solicit his release. She went to President Johnson, and he gave her the necessary order, which she took back to Secretary Stanton. Stanton read the order, and, looking her in the face, tore it up without a word and pitched it into his waste-basket. The lady arose and retired without speaking; nor did Stanton speak to her.

Draw a line under the three of the following words which you think best describe this action of Secretary Stanton.

cautious tactful callous generous courteous
thoughtful sympathetic rude insolent considerate

lay.
e it was Spottsyl-
ashington, in com-
night at a tavern
ad b'd supper, the
earing my name,
remrked that he
sory they were
two for Jackson.
asked him. 'Be-
ad cheated Jack-
en any evidence,
ied, 'none, and I
him directly and
come here, and
calumny, and not
'No,' replied the

words which you

arrow-minded

deceitful

15. When Jefferson Davis was Secretary of War under Presi-
dent Pierce he seemed to want to direct everything from a review
down to the purchase of shoe-blackening. He also changed the
patterns of uniforms, arms, and equipments several times, and it
was after one of these changes that he received a communication
from Lieutenant Derby, well known in literary circles as John
Phoenix, suggesting that each private have a stout iron hook pro-
jecting from a round plate, to be strongly sewed on the rear of
his trousers. Illustrations showed the uses to which this hook
could be put. In one, a soldier was shown on the march, carrying
his effects suspended from this hook; in another, a row of men
were hung by their hooks on a fence, fast asleep; in a third, a
company was shown advancing in line of battle, each man having
a rope attached to his hook, the other end of which was held by
an officer in the rear, who could restrain him if he advanced too
rapidly, or haul him back if he was wounded. When Secretary
Davis received this he was in a towering rage, and he announced
that day at a Cabinet meeting that he intended to have Lieutenant
Derby tried before a courtmartial "organized to convict" and
summarily dismissed.

16 (a) Draw a line under the three of the following words which
you think best describe this action of Lieutenant Derby.

- | | | | | |
|----------|-----------|----------|---------|-----------|
| tactful | petty | noble | daring | impudent |
| generous | honorable | cowardly | amusing | courteous |

18 (b) Draw a line under the three of the following words which
you think best describe Jefferson Davis as he appears in this
incident.

- | | | | | |
|---------|-----------|-----------|----------|------------|
| prudent | tactful | impulsive | just | deliberate |
| modest | resentful | cool | generous | touchy |

in Quincy Adam's private secretary was his . One evening Mr. Russell Jarvis, who then in Telegraph, a newspaper which advocated attended a reception at the White House, and a party of visiting relatives from Boston. Those who were with him to Mrs. Adams, courteously and they then passed on into the afterwards they found themselves standing Adams, who was conversing with the Rev- "Who is that lady?" asked Mr. Stetson. John Adams, in a tone so loud that the party of one Russell Jarvis, and if he knew how wed in this house, they would not be here." and their respects to Mrs. Adams and left. A Mr. Jarvis sent a note to Mr. John Adams, ation, but Mr. Adams replied that he had no Mr. Jarvis.

the three of the following words which you e action of John Adams.

- | | | | |
|-----|-------------|----------|------------|
| | heroic | tactless | courteous |
| ous | considerate | tactful | courageous |

evolutionary War, when a body of American a party of invaders, and were pursuing them mmanding officer suddenly called them from en surprised and irritated at the order, seeing ting off the retreat of the enemy, reproach- before they could gain their boats, two thirds isoners. "True," calmly replied the officer, the order for retreat; "We might possibly zen men, have deprived the enemy of some ould have been the dozen?—sons, husbands, citizens. And what would have been the ting for hire."

the three of the following words which you he action of the commanding officer in thus

- | | | | |
|--|-------------|-----------|-------|
| | considerate | judicious | weak |
| | dilatory | prudent | timid |

er John Quincy Adams left the White House, might be elected to the House of Represen- ict. The man who told him suggested that ld elevate the representative character in- e individual. Mr. Adams replied that he had scruples whatever. No person can be de- e people as their Representative in Congress, would an ex-President of the United States ing as a selectman of his town if elected

13. Mr. McLean, who had been Post-master President Adams, had been an ardent supporter Jackson for President. Jackson, when he became that in adopting the policy of rewarding his friends his enemies, Mr. McLean was entitled to a position master General, Mr. McLean, however, had always make appointments and removals upon the grounds nections, and had strongly condemned such a practice Jackson sent for Mr. McLean, to whom he stated adopt the policy of removing from office such persons during the canvass for President, taken an active part and asked Mr. McLean whether he had any objections of action.

To this Mr. McLean replied that he had not; "if this rule should be adopted it will operate as well friends as those of Mr. Adams, as it must be executed."

After walking up and down the rooms several times Jackson said, "Mr. McLean, will you accept a bench of the Supreme Court?" McLean was later for the Supreme Court.

16 (a) Draw a line under the three of the following you think best describe Mr. McLean as he appeared in this incident.

- | | | | |
|-----------|-----------|------------|---------------|
| cowardly | servile | obstinate | firm |
| compliant | honorable | submissive | conscientious |

18 (b) Draw a line under the three of the following you think best describe President Jackson as he appeared in this incident.

- | | | | |
|---------|-----------|------------|-----------|
| shrewd | unjust | suspicious | credulous |
| servile | sagacious | false | deceitful |

6 9. The fort at Casco was held by Major March with thirty-six men. When three well-known Indian chiefs from Norridgewock appeared with a white flag, and asked for an interview, he had no thought of danger. As they seemed to be alone and unarmed, he went to meet them followed by two or three soldiers and accompanied by two old men. They had hardly reached the spot when the three chiefs drew hatchets from under a kind of mantle which they wore and sprang upon them, while other Indians, hidden in ambush near by, leaped up and joined in the attack. The two old men were killed at once; but March, who was noted for his strength and agility, wrenched a hatchet from one of his assailants, and kept them all at bay till other soldiers came up and drove the Indians off.

Draw a line under the three of the following words which you think best describe the action of these Indians.

heroic	treacherous	defiant	noble	deceitful
brave	untrustworthy	honest	daring	timid

10. In war the Indians came upon their enemies as quietly as possible and when least expected. Even then they were careful to fight from behind trees and rocks if the enemy could possibly shoot at them. When going into battle they gave out most piercing yells and shrieks, usually spoken of as war-whoops. If they were successful, they cut off the scalps of the dead and wounded. They sometimes took the captives taken in battle into their families to fill the places of relatives who had died. More often, however, the prisoners, whether white men or Indians, were put to death.

Draw a line under the three of the following words which you think best describe the action of the Indians at war.

humane	disloyal	merciful	cruel	heroic
careless	kind	crafty	noble	stealthy

11. During the years from 1703 to 1712 the frontier settlements of the colonies were attacked, one after another, by mixed bands of Indians and Frenchmen. The men were killed from ambush as well as in open attack on the villages. The cabins were burned. The women and children were captured and carried off, or butchered in their cabins. Yet these outlying settlements were not abandoned in spite of such ghastly and ever-present dangers.

Draw a line under the three of the following words which you think best describe the action of these frontier people.

intrepid	dismayed	gentle	shrinking	resolute
cowardly	treacherous	timid	dauntless	deceitful

12. General Smyth was remarkable for long, prosy, interminable speeches in the House of Representatives. On one occasion, in the committee of the whole, after having wearied the patience of the members more than usual, he said to Mr. Clay, who sat near him, in a low voice, while he was pausing for a new start, "You speak for the present generation; I speak for posterity."—"Yes," replied Mr. Clay, "and you seem resolved to continue speaking till your audience arrives."

Draw a line under the three of the following words which you think best describes this action of Henry Clay.

kind	bitter	sarcastic	generous	cautious
humorous	ignoble	abusive	sympathetic	ready-witted

13. For a long time the Northwestern Indians had been ravaging the frontier settlements but the United States government had made no preparation for a determined attempt to put an end to these outrages. At last an army was sent out under St. Clair and Butler to put a stop to the Indian attacks. Most of the recruits were from the streets and prisons of the seaboard cities, who had enlisted for a salary of two dollars a month. These men were hurried into a campaign against peculiarly formidable foes before they had acquired the rudiments of a soldier's training, and they never even understood what woodcraft meant. The officers themselves were utterly without training, and had no time in which to train their men.

On their way to the Northwest the little army had become reduced to about 1400 as the result of desertions. They were nearing the place where a conflict might be expected yet St. Clair sent one of his two regular regiments in pursuit of a band of deserters. The troops were camped on a narrow rise of ground. All around the wintry woods lay in frozen silence. In front, the militia were thrown across a creek, about a quarter of a mile beyond the rest of the troops. Parties of Indians were seen in the afternoon, and at night they skulked around the lines so that the sentinels frequently fired at them. St. Clair had been warned when he set out to beware of a surprise attack. Neither St. Clair nor Butler took any adequate measures to ward off a sudden blow. Soon after sunrise, just as the men were dismissed from parade, a sudden assault was made upon the militia, who lay unprotected beyond the creek. The unexpectedness and fury of the onset, the heavy firing, and the appalling whoops and yells of the throngs of painted savages threw the militia into disorder. After a few moments' resistance they broke and fled in wild panic to the camp of the regulars, spreading dismay and confusion. St. Clair and Butler bravely rallied their men but the struggle ended in a complete rout of the little American army.

13 (a) Draw a line under the three of the following words which you think best describe the action of the men who were responsible for sending such an army against the Northwestern Indians.

negligent	courageous	zealous	rash	intrepid
ardent	shortsighted	capable	firm	undaunted

13 (b) Draw a line under the three of the following words which you think best describe St. Clair and Butler as shown by their action previous to the Indian attack.

wary	selfish	cautious	cowardly	incautious
negligent	prudent	zealous	incompetent	defiant

14. From an incident related by Henry Clay.
"I was travelling, in 1828, through I believe it was Spottsylvania County, in Virginia, on my return to Washington, in company with some young friends. We halted at night at a tavern kept by an aged gentleman. After a hurried and bad supper, the old gentleman sat down by me, and without hearing my name, but understanding that I was from Kentucky, remarked that he had four sons in that state, and that he was sorry they were divided in politics, two being for Adams, and two for Jackson. He wished they were all for Jackson. 'Why?' I asked him. 'Because,' he said, 'that fellow Clay, and Adams, had cheated Jackson out of the Presidency.'—'Have you ever seen any evidence, my old friend,' said I, 'of that?'—'No,' he replied, 'none, and I wish to see none.'—'But,' I observed, looking at him directly and steadily in the face, 'suppose Mr. Clay were to come here, and assure you, upon his honor, that it was all a vile calumny, and not a word of truth in it, would you believe him?'—'No,' replied the old gentleman, promptly and emphatically."

Draw a line under the three of the following words which you think best describe this old gentleman.

tolerant	bigoted	fair	generous	narrow-minded
open-minded	daring	prejudiced	liberal	deceitful

15. When Jefferson Davis was Secretary of War under President Pierce he seemed to want to direct everything from a review down to the purchase of shoe-blackening. He also changed the patterns of uniforms, arms, and equipments several times, and it was after one of these changes that he received a communication from Lieutenant Derby, well known in literary circles as John Phoenix, suggesting that each private have a stout iron hook projecting from a round plate, to be strongly sewed on the rear of his trousers. Illustrations showed the uses to which this hook could be put. In one, a soldier was shown on the march, carrying his effects suspended from this hook; in another, a row of men were hung by their hooks on a fence, fast asleep; in a third, a company was shown advancing in line of battle, each man having a rope attached to his hook, the other end of which was held by an officer in the rear, who could restrain him if he advanced too rapidly, or haul him back if he was wounded. When Secretary Davis received this he was in a towering rage, and he announced that day at a Cabinet meeting that he intended to have Lieutenant Derby tried before a courtmartial "organized to convict" and summarily dismissed.

16 (a) Draw a line under the three of the following words which you think best describe this action of Lieutenant Derby.

tactful	petty	noble	daring	impudent
generous	honorable	cowardly	amusing	courteous

16 (b) Draw a line under the three of the following words which you think best describe Jefferson Davis as he appears in this incident.

prudent	tactful	impulsive	just	deliberate
modest	resentful	cool	generous	touchy

VAN WAGENEN AMERICAN HISTORY SCALES

CHARACTER JUDGMENT SCALE B

Name _____ Sex _____ Grade _____ School _____
When was your last birthday? _____ How old were you? _____ Date _____

1. It was in the autumn of 1776 that a band of Indians attacked Fort Henry on the Ohio River. There were some fifty women and children crowded within the stockade with less than twenty men and boys to defend it. Several times during the day, again at midnight, and early the next morning the fort was attacked. Then the stockade became short of powder. The Captain had a keg of powder in his cabin but the cabin was sixty yards away. To cross the space meant death to any man who attempted it. Without the powder the defenders would be at the mercy of the Indians. Every man and boy was ready to go. "Let me go," cried a young girl, Elizabeth Zane. "If I am killed I shall not be missed as a man would be." The gate of the stockade opened and the girl walked out and over to the cabin. The Indians did not fire a shot, but when they saw her running back to the fort with the keg of powder their fury was let loose.

Draw a line under the three of the following words which you think best describe the action of Elizabeth Zane.

careless cruel timid courageous cautious
foolish heroic noble selfish spiteful

3. In a speech in the House of Representatives in 1826, Mr. Randolph charged Henry Clay with being a blackleg. He also charged Mr. Clay with having forged a certain dispatch which purported to have been written and addressed to him by a foreign minister. Upon Mr. Randolph's refusal to retract these charges Mr. Clay challenged him to a duel.

The duel took place April 8, 1826. There was an exchange of shots; Mr. Clay's ball cutting Mr. Randolph's coat near the hip. Another trial was required by Mr. Clay. Mr. Randolph received the fire of his antagonist, raised his pistol and fired in the air, saying, "I do not fire at you, Mr. Clay," and immediately advanced and offered his hand.

Previous to the duel Mr. Randolph had told a friend, Colonel Benton, that he did not intend to fire at Mr. Clay as he felt he had done him an injury and that Mr. Clay could not do otherwise than challenge him to the duel.

Draw a line under the three of the following words which you think best describe Mr. Randolph as he appears in this incident.

defiant honorable brave false cowardly
servile irresolute unfair gallant stupid

2. In July, 1806, Pike and Robinson started out with twenty-one men to explore the country toward the head of the Rio Grande and to find out everything possible about the Spanish provinces. In January they left part of their band in a fort near where Canyon City now stands, and with a dozen soldiers struck through the mountains toward the Rio Grande. Their sufferings were terrible. They were almost starved and so cold was the weather that at one time no less than nine of the men froze their feet. Yet only once in all their trials did a single member of the party so much as grumble. At this time, starvation stared them in the face. There had been a heavy snowstorm; no game was to be seen; and they had been two days without food. The men with frozen feet, exhausted with hunger, could no longer travel. Two of the soldiers went out to hunt but got nothing.

At the same time Pike and Robinson started, determined not to return at all unless they could bring back meat. All day they tramped wearily through the heavy snow. Towards evening they came on a buffalo and wounded it; but faint and weary from hunger they shot badly, and the buffalo escaped. That night they sat up among some rocks, all night long, unable to sleep because of the intense cold, shivering in their thin rags; they had not eaten for three days. The next day trudging painfully on, they at last succeeded, after another heart-breaking failure, in killing a buffalo. At midnight they staggered into camp with the meat, and all the party broke their four days' fast.

7 (a) Draw a line under the three of the following words which you think best describe these soldiers from the way they acted as pictured in the first paragraph.

careless enduring disloyal steadfast faint-hearted
wavering seditious persevering treacherous ignoble

3 (b) Draw a line under the three of the following words which you think best describe the act of Pike and Robinson as pictured in the second paragraph.

cowardly deceitful reckless self-sacrificing timid
faint-hearted callous faithful unfeeling courageous

4. The frontiersmen were very poor. They worked hard and lived roughly. They and their families had little beyond coarse food, coarse clothing, and a rude shelter. In the severe winters they suffered from both cold and hunger. In the summers there was sickness everywhere, fevers of various kinds scourging all the new settlements. The difficulty of communication was so great that it took three months for the emigrants to travel from Connecticut to the Western Reserve near Cleveland, and a journey from a clearing, over the forest road, to a little town not fifty miles off was an affair of moment to be undertaken but once a year. Yet to the frontiersmen themselves the life was far from unattractive.

Draw a line under the three of the following words which you think best describe these frontier settlers.

shiftless careless enduring foolhardy cowardly
timid dauntless lazy stout-hearted negligent

5. William Berkeley, who had been appointed governor of Virginia, increased his income by selling gunpowder to the Indians. Although the Indians often attacked the settlers and carried off cattle and sheep, the governor would not attack them.

At last Nathaniel Bacon, determined to lessen the settlers' troubles, called his neighbors and formed a band to go out against the Indians. Soon after the company started they were overtaken by a messenger from the governor denouncing as rebels all who should not at once return to their homes. Although only 57 out of 400 stuck by Bacon, they won a complete victory over the Indians.

Upon their return to Jamestown Governor Berkeley promised Bacon that he would return him to his former seat in the council if he would live civilly. Bacon doubted the governor's sincerity and fled. A short time afterward he returned to Jamestown, accompanied by 500 armed men. While all was in confusion in the settlement, Governor Berkeley suddenly appeared before Bacon, and cried, "Here, shoot me! 'fore God, fair mark! Shoot!"

Bacon replied: "No, may it please your honor, we will not hurt a hair of your head. We have come for a commission to save our lives from the Indians and we shall have it before we go."

The next day Bacon received his commission, giving him the right to go against the Indians whenever he pleased. But when Bacon next attacked the Indians, the governor again denounced him as a traitor. When he heard that Bacon was returning to Jamestown, he, himself, fled.

4 (b) Draw a line under the three of the following words which you think best describe Nathaniel Bacon as he appears in this incident.

treacherous fearless resentful cowardly deceitful
independent selfish resolute submissive crafty

4 (b) Draw a line under the three of the following words which you think best describe Governor Berkeley as he appears in this incident.

prudent faithless dependable just false
upright conscientious loyal untrustworthy independent

2 6. Two American soldiers, Jasper and Newton, returning from scouting duty, were told that a man who had left the King's cause had been captured by the British. Eight guards were now taking him to Savannah, where he was to be hanged the next day. They hastened toward a spring a few miles from Savannah, where the guards would be likely to stop to get a drink. When the British came to the spring, they stopped to get a drink. Two of the guards were left to watch the prisoner. The rest stacked their guns against a tree. Leaping from their hiding place, Jasper and Newton each snatched a gun, shot the two guards, and seized the rest of the muskets. The six unarmed guards surrendered and were marched along back to the American camp with the rescued prisoner.

Draw a line under the three of the following words which you think best describe this action of Jasper and Newton.

selfish treacherous daring cruel spiteful
timid fearful brave bold cowardly

7. At one time when there had been a general tightness in money matters, many farms in the region northeast of Cincinnati which had been but partly paid for, had to be forfeited to the Government. In the discharge of his duties as Receiver of the District Land Office, General Findlay had to offer these places for sale. Soon after his appointment to the position he learned that many speculators were on hand to purchase these farms. Mounting a stump, he opened the sale. He designated the lands forfeited, and said that he was there to offer them to the highest bidder. He said that the original purchasers were honest men, but that in consequence of the hard times they had failed to meet their engagements. It was hard, thus to be forced from their homes, already partly paid for. But the law was imperative, and the lands must be offered. "And now," continued he, "I trust that there is no gentleman—no, I will not say that, I hope there is no rascal—here so mean as to buy his neighbor's home over his head. Gentlemen, I offer this lot for sale. Who bids?" There was no forfeited land sold that day.

Draw a line under the three of the following words which you think best describe this action of General Findlay.

weak timid incapable sympathetic incompetent
cowardly negligent tactful chivalrous dishonest

General under
of General
President, felt
and punishing
on. As Post-
nys refused to
of party con-
ice. President
that he should
persons as had,
part in politics,
on to this line
ad
en
but," said he,
ill against your
hi
be impartially
cal
mes, President
seat upon the
ter nominated
wo

ig words which
appears in this

irre

stubborn

us irresolute

ig words which
appears in this

clever

treacherous

19 14. Isaac Newton of Pennsylvania had been placed at the head of the Agricultural Bureau of the Patent Office by President Lincoln, and in due time he became the head of the newly created Department of Agriculture. One year when the expenditures of his department had been very great, and the Chairman of the Committee on Agriculture called on him to ascertain how he had used up so much money, Sir Isaac spluttered and talked learnedly, and at last concluded by saying : "Yes, sir, they have exceeded my most sanguine expectations." The Chairman was not satisfied, however. Looking over Sir Isaac's estimate for the year, it was found that he had asked for five thousand dollars to purchase two hydraulic rams. The Chairman could not understand what was going to be done with these machines for lifting water. "Them, gentlemen," said Sir Isaac, "are said to be the best sheep in Europe. I have seen a gentleman who knows all about them, and we should by all means secure the breed."

Draw a line under the three of the following words which you think best describe Isaac Newton.

just	simple	fair	careful	incompetent
wary	frank	honest	credulous	watchful

aper published in New York City, the New
e organ of the governor and the aristocratic
years later, in 1734, the Weekly Journal,
appeared and was from the start the organ of
At the time the governorship of the colony
ension off any court favorite otherwise un-
reference to the result of his appointment
enger began publishing a continuous suc-
the Crown officials, the governing class, and
nor, Crosby, himself.

and thrown into jail on the charge of libel.
the time belonged to the popular party, he
ffice and replaced by one of the stoutest
wn. Even Zenger's lawyers were disbarred
t he had to be defended by one imported
The defense was that the statements as-
were true. The attorney-general for the
d that if they were true, the libel was only

The judges instructed the jury that this
jury acquitted Zenger. The acquittal was
s joy by the mass of the population, and
etus to the growth of the spirit of inde-

mark in front of the three of the following
nk were the ones which most likely prompt-
ck the governing class.

nted to achieve notoriety.

nted to expose what seemed to him a pub-

anted to take revenge upon the governing
wrong that he thought had been done to

ought that the attacks would increase the
t of his newspaper.

anted to bring about a better condition in

nted to stir up trouble just for the excite-

nted to be made a martyr of by the gov-

that it was his duty to make the attacks.

ought that many of the governing class
es welcome such an exposure.

ought that the governing class would give
stop his attacks.

mark in front of the three of the following
hink were the ones which most likely
g class to thus prosecute Zenger.

wanted to win popular approval.

thought that such attacks were dangerous
welfare.

heard that their party might be overthrown
might lose their positions.

thought that Zenger was really a criminal
punished.

been afraid to have their actions honestly

9. Fletcher, who was the Royal Governor of N
1692 to 1698, was very strict in religious observan
of luxury, and had extravagant habits. Always
money, he was in the habit of receiving gifts from
pirate ships. He allowed the wealthy merchants to
laws of trade. He granted the public lands to the
church, and a few rich families but repressed th
small means.

The Earl of Bellemont, who was sent to New
enforced the laws of trade, put down smuggling
unscrupulous greed of the great merchants, hunted
pirates, and forfeited such of the grants of public la
sidered to have been illegally secured.

II 9a. Put a check mark in front of the three of
motives which you think were the ones which most li
Governor Fletcher to act as he did.

.....He may have wanted to vex the English govern
as he could.

.....He may have thought that it was not worth
rule the colony in any other way.

.....He may have thought that the way he foll
best way to manage the colony.

.....He may have cared very little about the v
colony.

.....He may have needed the money to keep
position.

.....He may have thought that this way of manag
would be the most pleasing to the English

.....He may have thought that the way he foll
one that would make him the most popular

.....He may have felt that he was really doing his

.....He may have wanted to make just as much
could.

.....He may have wanted to make the English
as bad as he could to the colonists.

12 9b. Put a check mark in front of the three of
motives which you think were the ones which most li
the Earl of Bellemont to act as he did.

.....He may have wanted to take revenge upon
people of the colony.

.....He may have wanted to win the approval
Crown.

.....He may have wanted to stir up some exci
colony.

.....He may have done it to win fame.

.....He may have wanted to improve the condit
pressed and to see that all received justice.

.....He may have done it to win a place in fu
histories.

.....He may have done it because he had to do
position.

.....He may have felt that it was his duty to act

.....He may have wanted to arouse as much disco
administration as he could.

8. The first newspaper published in New York City, the New York Gazette, was the organ of the governor and the aristocratic or court party. Nine years later, in 1734, the Weekly Journal, edited by Zenger, appeared and was from the start the organ of the popular party. At the time the governorship of the colony was being used to pension off any court favorite otherwise unprovided for, without reference to the result of his appointment upon the colony. Zenger began publishing a continuous succession of attacks on the Crown officials, the governing class, and finally upon the governor, Crosby, himself.

Zenger was arrested and thrown into jail on the charge of libel. As the chief-justice at the time belonged to the popular party, he was turned out of office and replaced by one of the stoutest upholders of the Crown. Even Zenger's lawyers were disbarred from the court so that he had to be defended by one imported from Philadelphia. The defense was that the statements asserted to be libelous were true. The attorney-general for the Crown took the ground that if they were true, the libel was only so much the greater. The judges instructed the jury that this was the law, but the jury acquitted Zenger. The acquittal was hailed with enormous joy by the mass of the population, and gave an immense impetus to the growth of the spirit of independence.

10 (a) Draw a line under the three of the following words which you think best describe the action of Zenger in thus attacking the Court Party.

spiteful petty independent ignoble daring
reckless wavering foolhardy patriotic timid

15 (b) Draw a line under the three of the following words which you think best describe the action of the governing class in thus prosecuting Zenger.

brave patriotic unjust courageous prudent
contemptible just judicious despicable careless

12 (c) Draw a line under the three of the following words which you think best describe the action of the jury in acquitting Zenger.

unfair just timid traitorous free
despicable submissive cautious independent ignoble

9. President Lincoln was quite ill one winter, and was not inclined to listen to all the bores who called at the White House. One day, just as one of these pests had seated himself for a long interview, the President's physician happened to enter the room, and Mr. Lincoln said, holding out his hands: "Doctor, what are those blotches?"—"That's varioloid, or mild small-pox," said the doctor. "They're all over me. It is contagious, I believe?" said Mr. Lincoln. "Very contagious, indeed," replied the physician. "Well, I can't stop, Mr. Lincoln; I just called to see how you were," said the visitor. "Oh! don't be in a hurry, sir," placidly remarked the Executive. "Thank you, sir; I'll call again," replied the visitor, executing a masterly retreat from a fearful contagion. "Do, sir," said the President. "Some people said they could not take very well to my proclamation, but now, I am happy to say, I have something that everybody can take." By this time the visitor was making a desperate break for Pennsylvania Avenue, which he reached on the double-quick and quite out of breath.

Draw a line under the three of the following words which you think best describe the action of President Lincoln.

rude spiteful blunt clever tactless
shrewd abusive unfair humorous discourteous

11 10. President John Quincy Adams's private secretary was his own son, John Adams. One evening Mr. Russell Jarvis, who then edited the Washington Telegraph, a newspaper which advocated Jackson's election, attended a reception at the White House, escorting his wife and a party of visiting relatives from Boston. Mr. Jarvis introduced those who were with him to Mrs. Adams, who received them courteously and they then passed on into the East Room. Soon afterwards they found themselves standing opposite to Mr. John Adams, who was conversing with the Reverend Mr. Stetson. "Who is that lady?" asked Mr. Stetson. "That," replied Mr. John Adams, in a tone so loud that the party heard it, "is the wife of one Russell Jarvis, and if he knew how contemptibly he is viewed in this house, they would not be here." The party at once paid their respects to Mrs. Adams and left. A few days afterwards Mr. Jarvis sent a note to Mr. John Adams, demanding an explanation, but Mr. Adams replied that he had no apology to make to Mr. Jarvis.

Draw a line under the three of the following words which you think best describe the action of John Adams.

noble rude heroic tactless courteous
gallant discourteous considerate tactful courageous

17 11. During the Revolutionary War, when a body of American militia had repulsed a party of invaders, and were pursuing them to their ships, the commanding officer suddenly called them from the pursuit. A citizen surprised and irritated at the order, seeing the possibility of cutting off the retreat of the enemy, reproachfully observed, that before they could gain their boats, two thirds might be dead or prisoners. "True," calmly replied the officer, having first enforced the order for retreat; "We might possibly with the loss of a dozen men, have deprived the enemy of some hundreds, but what would have been the dozen?—sons, husbands, fathers, and useful citizens. And what would have been the hundreds?—men fighting for hire."

Draw a line under the three of the following words which you think best describe the action of the commanding officer in thus recalling his men.

cowardly bold considerate judicious weak
yielding daring dilatory prudent timid

14 12. The year after John Quincy Adams left the White House, he was told that he might be elected to the House of Representatives from his district. The man who told him suggested that an ex-President would elevate the representative character instead of degrading the individual. Mr. Adams replied that he had "in that respect no scruples whatever. No person can be degraded by serving the people as their Representative in Congress, nor, in my opinion, would an ex-President of the United States be degraded by serving as a selectman of his town if elected thereto by the people."

Draw a line under the three of the following words which you think best describe John Quincy Adams as he appears in this incident.

self-seeking patriotic servile defiant independent
ignoble insolent stubborn democratic obstinate

13. Mr. McLean, who had been Post-master General under President Adams, had been an ardent supporter of General Jackson for President. Jackson, when he became President, felt that in adopting the policy of rewarding his friends and punishing his enemies, Mr. McLean was entitled to a position. As Post-master General, Mr. McLean, however, had always refused to make appointments and removals upon the ground of party connections, and had strongly condemned such a practice. President Jackson sent for Mr. McLean, to whom he stated that he should adopt the policy of removing from office such persons as had, during the canvass for President, taken an active part in politics, and asked Mr. McLean whether he had any objection to this line of action.

To this Mr. McLean replied that he had not; "but," said he, "if this rule should be adopted it will operate as well against your friends as those of Mr. Adams, as it must be impartially executed."

After walking up and down the rooms several times, President Jackson said, "Mr. McLean, will you accept a seat upon the bench of the Supreme Court?" McLean was later nominated for the Supreme Court.

16 (a) Draw a line under the three of the following words which you think best describe Mr. McLean as he appears in this incident.

cowardly servile obstinate firm stubborn
compliant honorable submissive conscientious irresolute

18 (b) Draw a line under the three of the following words which you think best describe President Jackson as he appears in this incident.

shrewd unjust suspicious credulous clever
servile sagacious false deceitful treacherous

19 14. Isaac Newton of Pennsylvania had been placed at the head of the Agricultural Bureau of the Patent Office by President Lincoln, and in due time he became the head of the newly created Department of Agriculture. One year when the expenditures of his department had been very great, and the Chairman of the Committee on Agriculture called on him to ascertain how he had used up so much money, Sir Isaac spluttered and talked learnedly, and at last concluded by saying: "Yes, sir, they have exceeded my most sanguine expectations." The Chairman was not satisfied, however. Looking over Sir Isaac's estimate for the year, it was found that he had asked for five thousand dollars to purchase two hydraulic rams. The Chairman could not understand what was going to be done with these machines for lifting water. "Them, gentlemen," said Sir Isaac, "are said to be the best sheep in Europe. I have seen a gentleman who knows all about them, and we should by all means secure the breed."

Draw a line under the three of the following words which you think best describe Isaac Newton.

just simple fair careful incompetent
wary frank honest credulous watchful

VAN WAGENEN AMERICAN HISTORY SCALES

CHARACTER JUDGMENT SCALE I

Name _____ Sex _____ Grade _____ School _____

When was your last birthday? _____ How old were you? _____ Date _____

2 1. It was in the autumn of 1776 that a band of Indians attacked Fort Henry on the Ohio River. There were some fifty women and children crowded within the stockade with less than twenty men and boys to defend it. Several times during the day, again at midnight, and early the next morning the fort was attacked. Then the stockade became short of powder. The Captain had a keg of powder in his cabin but the cabin was sixty yards away. To cross the space meant death to any man who attempted it. Without the powder the defenders would be at the mercy of the Indians. Every man and boy was ready to go. "Let me go," cried a young girl, Elizabeth Zane. "If I am killed I shall not be missed as a man would be." The gate of the stockade opened and the girl walked out and over to the cabin. The Indians did not fire a shot, but when they saw her running back to the fort with the keg of powder their fury was let loose.

Put a check mark in front of the three of the following motives which you think were the ones which most likely prompted Elizabeth Zane to go after the powder.

-She may have thought that she would get a lot of presents if she brought the powder.
-She may have wanted to do it just for the sake of the adventure.
-She may have felt that they would probably all be killed and she would rather die fighting as the men did.
-She may have wanted to do something to become the heroine of the fort.
-She may have wanted to be killed because she thought that people had not been good to her.
-She may have felt that it was her plain duty.
-She may have wanted to outdo some other girl who had done a brave deed.
-She may have felt that it was worth risking her life to save those in the fort.
-She may have wanted to see if the Indians would really shoot at a girl.
-She may have done it because some one "dared" her to do it.

2 2. A chief of the Minnesota tribe heard that his little son had been captured by the Foxes, another Indian tribe. Knowing that the child would be burned at the stake, the father hastened to the enemy's camp. Coming up with the Foxes, the chief said, "My little son, whom you are about to burn with fire, has seen but few winters; his tender feet have never trod the warpath. He has never injured you. But the hairs of my head are white with many winters, and over the graves of my relatives I have hung many scalps taken from the heads of the Foxes. My death is worth something to you. Let me, therefore, take the place of my child, that he may return to his people." The little boy was set free and the father died in his stead.

Put a check mark in front of the three of the following motives which you think were the ones which most likely prompted the Indian father to give his life in place of that of his son.

-He may have wanted to win the approval of his tribe.
-He may have done it because he thought so much of his boy.
-He may have wanted to win the admiration of his enemies.
-He may have wanted to be looked upon as a hero.
-He may have thought his enemies would let them both go.
-He may have felt that it was his duty.
-He may have feared that his own tribe would disown him unless he gave his life for that of his son.
-He may have feared that he could never be happy again if his little son were killed.
-He may have wanted to prevent his enemies from rejoicing in making him suffer over the loss of his son.
-He may have wanted to appeal to the sympathy of his enemies.

3. In 1724 the Massachusetts Colony determined to put a stop to the Indian ravages. One of their armies of about eighty men under Moulton cautiously advanced through a forest to the open village of Norridgewock. Not an Indian was stirring, till at length a warrior came out from one of the huts, saw the English, gave a startled war-whoop, and ran back for his gun. Then all was dismay and confusion. Squaws and children ran screaming for the river, while the warriors, fifty or sixty in number, came to meet the enemy. Moulton ordered his men to reserve their fire until the Indians had emptied their guns. The savages fired wildly and did little or no harm. The English, still keeping their ranks, returned a volley with deadly effect. The Indians gave no more fire, and then ran for the river. Some tried to wade to the farther side, others swam across, while many jumped into their canoes, but could not use them as they had left the paddles in their huts. Moulton and his men followed close, shooting the fugitives in the water or as they climbed the farther bank.

7 3a. Put a check mark in front of the three of the following motives which you think were the ones which most likely prompted the Indians to run for the river.

-They may have wanted to lure the white soldiers on to where they could fight them to better advantage.
-They may have wanted to show the English soldiers how fast they could get away.
-They may have wanted to help the women and children across.
-They may have thought that the white soldiers had the advantage.
-They may have run toward the river to frighten the white soldiers away.
-They may have been too frightened to oppose the white soldiers.
-They may have thought that the white soldiers only wanted to burn their village and that they had better get away and let them do it.
-They may have wanted to let the white soldiers kill the Indian women and children.
-They may have thought that the white soldiers would be afraid to follow them up.
-They may have wanted to save their own lives at any cost.

5 3b. Put a check mark in front of the three of the following motives which you think were the ones which most likely prompted the English soldiers to follow up the Indians.

-They may have wanted to win the admiration of their people at home.
-They may have wanted to make the Indians fear and dread them.
-They may not have wanted to be called cowardly afterwards.
-They may have done it for the enjoyment of seeing the Indians perish.
-They may have wanted to defeat the Indians completely.
-They may have wanted the Indians to talk of them as cruel and ruthless murderers.
-They may have done it just because they enjoyed the adventure.
-They may have wanted to capture the Indians for slaves.
-They may have felt that this was too good an opportunity of punishing the Indians for past ravages to lose.
-They may have wanted to win the friendship of the Indians.

8 4. The fort at Casco was held by Major March with thirty-six men. When three well-known Indian chiefs from Norridgewock appeared with a white flag, and asked for an interview, he had no thought of danger. As they seemed to be alone and unarmed, he went to meet them followed by two or three soldiers and accompanied by two old men. They had hardly reached the spot when the three chiefs drew hatchets from under a kind of mantle which they wore and sprang upon them, while other Indians, hidden in ambush near by, leaped up and joined in the attack. The two old men were killed at once, but March, who was noted for his strength and agility, wrenched a hatchet from one of his assailants, and kept them all at bay till other soldiers came up and drove the Indians off.

Put a check mark in front of the three of the following motives which you think were the ones which most likely prompted the Indians to do what they did.

-They may have done it just for the adventure.
-They may have killed these white men just for the pleasure of killing.
-They may have wanted to take revenge on the white men for having injured some one of their kin.
-They may have done it to bring trouble upon their own kinsmen.
-They may have been in a rage over some act which they thought the white people had done to injure them.
-They may have done it to please their gods.
-They may have done it to see if the white people were strong enough to strike back.
-They may have been at war with the white people and this action may have seemed perfectly right to them.
-They may have done it to make the white people treat them more fairly.
-They may have done it to see what the white people would do.

6 5. During the Revolutionary War, when a body of American militia had repulsed a party of invaders, and were pursuing them to their ships, the commanding officer suddenly called them from the pursuit. A citizen surprised and irritated at the order, seeing the possibility of cutting off the retreat of the enemy, reproachfully observed that before they could gain their boats, two-thirds might be dead or prisoners. "True," calmly replied the officer, having first enforced the order for retreat: "We might possibly with the loss of a dozen men, have deprived the enemy of some hundreds, but what would have been the dozen?—sons, husbands, fathers, and useful citizens. And what would have been the hundreds?—men fighting for hire."

Put a check mark in front of the three of the following motives which you think were the ones which most likely prompted the commanding officer to recall his men.

-He may have been afraid of losing his own life.
-He may have wanted to show his authority before the village people.
-He may have wanted to show his contempt for public opinion.
-He may have felt responsible for the lives of his men and the happiness of their families.
-He may have been afraid that his ammunition would not hold out much longer.
-He may have thought that there was nothing worth while to be gained by shooting a few more of the enemy.
-He may not have cared to win a victory.
-He may have been afraid that the enemy might yet turn and defeat his band of soldiers.
-He may have feared that if this group of the enemy were killed a larger group might try to avenge their death.
-He may have thought that the lives of his men were too precious to be unnecessarily risked.

3 6. Shortly after taking his seat in the House of Representatives John Quincy Adams began to present petitions for the abolition of slavery. At first these petitions which people sent to Mr. Adams attracted but little notice, but as they multiplied the Southern Republicans became aroused. At first they assailed Mr. Adams for presenting them, but finally there was passed what was known as the "gag-rule" which prevented the reception of these petitions by the House of Representatives. During the next few years Mr. Adams put his whole force into breaking down the "gag-rule" and defending the right of petition. On every petition day, in spite of the "gag-rule," he would offer, in constantly increasing numbers, petitions which came to him from all parts of the country for the abolition of slavery. The Southern Representatives came to hate Mr. Adams. In 1837 and again in 1842 the Representatives threatened to expel him from the House, but Mr. Adams stood his ground and ably defended himself. Every year Mr. Adams renewed his motion to strike out the "gag-rule," and forced it to a vote. The majority against his motion kept growing smaller and smaller until in 1844 it was passed, and the right of petition had been won in the American House of Representatives.

Put a check mark in front of the three of the following motives which you think were the ones which most likely prompted John Quincy Adams to continue presenting the abolition petitions in the House of Representatives.

-He may have wanted to win the admiration of the Northern people.
-He may have done it because he believed the right of petition should be preserved.
-He may have hoped that by doing this he would win his reelection to Congress.
-He may have wanted to arouse some excitement.
-He may have felt that it was his duty to try to break down the "gag-rule."
-He may have wanted to arouse the opposition of the Southern Representatives.
-He may have done it just because he enjoyed the strife.
-He may have done it to arouse popular opposition to the "gag-rule."
-He may have done it in the hope of winning enduring fame.
-He may have done it just to see how many enemies he could make.

7. William Berkeley, who had been appointed governor of Virginia, increased his income by selling gunpowder to the Indians. Although the Indians often attacked the settlers and carried off cattle and sheep, the governor would not attack them.

At last Nathaniel Bacon determined to lessen the settlers' troubles, called his neighbors and formed a band to go out against the Indians. Soon after the company started they were overtaken by a messenger from the governor denouncing as rebels all who should not at once return to their homes. Although only 57 out of 400 stuck by Bacon, they won a complete victory over the Indians.

Upon their return to Jamestown Governor Berkeley promised Bacon that he would return him to his former seat in the council if he would live civilly. Bacon doubted the governor's sincerity and fled. A short time afterward he returned to Jamestown, accompanied by 500 armed men. While all was in confusion in the settlement, Governor Berkeley suddenly appeared before Bacon, and cried, "Here, shoot me! 'fore God, fair mark! Shoot!"

Bacon replied: "No, may it please your honor, we will not hurt a hair of your head. We have come for a commission to save our lives from the Indians and we shall have it before we go."

The next day Bacon received his commission, giving him the right to go against the Indians whenever he pleased. But when Bacon next attacked the Indians, the governor again denounced him as a traitor. When he heard that Bacon was returning to Jamestown, he, himself, fled.

4 7a. Put a check mark in front of the three of the following motives which you think were the ones which most likely prompted Bacon to attack the Indians when Governor Berkeley had refused to grant him a commission.

-He may just have wanted the adventure.
-He may have wanted to become the popular leader of the people.
-He may have wanted to stir up trouble with Berkeley just for the excitement of it.
-He may have been exasperated by the condition of affairs.
-He may have wanted to be appointed governor himself in Berkeley's place.
-He may have wanted to bring on a war between the Indians and the colony.
-He may have felt that it was his duty.
-He may have thought that Berkeley intended well but did not know what was best to do.
-He may have wanted to put a stop to the Indian outrages so that he and his neighbors might live in security.
-He may have thought that he could win friendship of Berkeley in this way.

14 7b. Put a check mark in front of the three of the following motives which you think were the ones which most likely prompted Governor Berkeley to refuse to grant to Bacon a commission to attack the Indians.

-He may have feared that the Indians would defeat Bacon's army and destroy the colony.
-He may have wanted to show his own authority in the colony.
-He may have thought that Bacon was not competent to undertake such a task.
-He may have been afraid of losing his own trade with the Indians.
-He may have feared that the colonists would oppose such an attack upon the Indians.
-He may have feared that the English Government would remove him if he permitted such an attack to be made upon the Indians.
-He may have thought that he could put a stop to the Indian ravages by some peaceful means.
-He may have thought that the Indians were right in attacking the outlying settlements made on the Indian hunting grounds.
-He may not have cared enough about the welfare of the colonists to allow them to put a stop to the Indian attacks.
-He may have loved peace too well to allow a war with the Indians to be started.

8. The first newspaper published in New York City, the New York Gazette, was the organ of the governor and the aristocratic or court party. Nine years later, in 1734, the Weekly Journal, edited by Zenger, appeared and was from the start the organ of the popular party. At the time the governorship of the colony was being used to pension off any court favorite otherwise unprovided for, without reference to the result of his appointment upon the colony. Zenger began publishing a continuous succession of attacks on the Crown officials, the governing class, and finally upon the governor, Crosby, himself.

Zenger was arrested and thrown into jail on the charge of libel. As the chief justice at the time belonged to the popular party, he was turned out of office and replaced by one of the stoutest upholders of the Crown. Even Zenger's lawyers were disbarred from the court so that he had to be defended by one imported from Philadelphia. The defense was that the statements, asserted to be libelous were true. The attorney-general for the Crown took the ground that if they were true, the libel was only so much the greater. The judges instructed the jury that this was the law, but the jury acquitted Zenger. The acquittal was hailed with clamorous joy by the mass of the population, and gave an immense impetus to the growth of the spirit of independence.

9 8a. Put a check mark in front of the three of the following motives which you think were the ones which most likely prompted Zenger to thus attack the governing class.

-He may have wanted to achieve notoriety.
-He may have wanted to expose what seemed to him a public wrong.
-He may have wanted to take revenge upon the governing class for some wrong that he thought had been done to him.
-He may have thought that the attacks would increase the subscription list of his newspaper.
-He may have wanted to bring about a better condition in public affairs.
-He may have wanted to stir up trouble just for the excitement of it.
-He may have wanted to be made a martyr of by the governing class.
-He may have felt that it was his duty to make the attacks.
-He may have thought that many of the governing class would themselves welcome such an exposure.
-He may have thought that the governing class would give him money to stop his attacks.

13 8b. Put a check mark in front of the three of the following motives which you think were the ones which most likely prompted the governing class to thus prosecute Zenger.

-They may have wanted to win popular approval.
-They may have thought that such attacks were dangerous for the public welfare.
-They may have feared that their party might be overthrown and that they might lose their positions.
-They may have thought that Zenger was really a criminal who should be punished.
-They may have been afraid to have their actions honestly exposed.
-They may have thought that they were doing right in thus prosecuting Zenger.
-They may have done it just to arouse some excitement.
-They may have thought that such attacks were dangerous for their own welfare.
-They may have done it just because they enjoyed doing it.
-They may have done it to arouse general dissatisfaction with the English Government.

9. Fletcher, who was the Royal Governor of New York from 1692 to 1698, was very strict in religious observances, was fond of luxury, and had extravagant habits. Always in want of money, he was in the habit of receiving gifts from the different pirate ships. He allowed the wealthy merchants to disregard the laws of trade. He granted the public lands to the ministry, the church, and a few rich families but repressed the freemen of small means.

The Earl of Bellemont, who was sent to New York in 1698, enforced the laws of trade, put down smuggling, checked the unscrupulous greed of the great merchants, hunted and hung the pirates, and forfeited such of the grants of public land as he considered to have been illegally secured.

11 9a. Put a check mark in front of the three of the following motives which you think were the ones which most likely prompted Governor Fletcher to act as he did.

-He may have wanted to vex the English government as much as he could.
-He may have thought that it was not worth the trouble to rule the colony in any other way.
-He may have thought that the way he followed was the best way to manage the colony.
-He may have cared very little about the welfare of the colony.
-He may have needed the money to keep up his social position.
-He may have thought that this way of managing the colony would be the most pleasing to the English Government.
-He may have thought that the way he followed was the one that would make him the most popular in the colony.
-He may have felt that he was really doing his duty.

-He may have wanted to make just as much money as he could.
-He may have wanted to make the English rule seem just as bad as he could to the colonists.

12 9b. Put a check mark in front of the three of the following motives which you think were the ones which most likely prompted the Earl of Bellemont to act as he did.

-He may have wanted to take revenge upon the wealthy people of the colony.
-He may have wanted to win the approval of the English Crown.
-He may have wanted to stir up some excitement in the colony.
-He may have done it to win fame.
-He may have wanted to improve the condition of the repressed and to see that all received justice.
-He may have done it to win a place in future American histories.
-He may have done it because he had to do it to hold his position.
-He may have felt that it was his duty to act as he did.

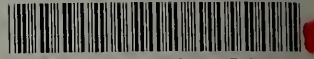
-He may have wanted to arouse as much discontent with his administration as he could.
-He may have wanted to keep the wealthier colonists in a constant state of anxiety.

20 10. Two American soldiers, Jasper and Newton, returning from scouting duty, were told that a man who had left the King's cause had been captured by the British. Eight guards were now taking him to Savannah, where he was to be hanged the next day. The two soldiers set out to rescue him. They hastened toward a spring a few miles from Savannah, where the guards would be likely to stop to get a drink. When the British came to the spring, they stopped to get a drink. Two of the guards were left to watch the prisoner. The rest stacked their guns against a tree. Leaping from their hiding place, Jasper and Newton each snatched a gun, shot the two guards, and seized the rest of the muskets. The six unarmed guards surrendered and were marched along back to the American camp with the rescued prisoner.

Put a check mark in front of the three of the following motives which you think were the ones which most likely prompted Jasper and Newton to try to rescue this prisoner held by the British.

-They may have been afraid that their friends would taunt them if they did not rescue the man.
-They may have wanted to rescue the man just because they felt sorry for him.
-They may have wanted to be looked upon as heroes.
-They may have thought that the risk would be less than in fighting.
-They may have done it to provoke or anger the British.
-They may have wanted to win a place in future American histories.
-They may have wanted to outwit the British.
-They may have thought that if they cornered the British party they would receive money to let the British proceed on their way.
-They may have felt that it was their duty to rescue this man.
-They may not have realized the danger there would be.

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